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To Announce Public Relations Program Soon

Salesmen Association of Paper Industry Will In Immediate Future Outline Campaign For Approval of American Paper and Pulp Association To Explain Importance of Paper in National Economy.

The Salesmen's Association has been appointed by the American Paper and Pulp Association to survey the question of a Public Relations Campaign for the Pulp and Paper Industry of the United States. Mr. Beardsley, president of the Salesmen's Association and chairman of the Public Relations Committee, reports that considerable progress has been made and in the immediate future a tentative program for approval of the American Paper and Pulp Association will be presented.

Importance of Paper Not Realized

"We need a Public Relations Campaign in the Pulp and Paper Industry," Mr. Beardsley states, "because this Industry does not realize its collective power and importance in the national economy. Furthermore, the general public does not realize the importance of the Paper Industry to its every day existence. Fortunately, the general public's attitude toward the Pulp and Paper Industry is not unfavorable, it is just apathetic—the man in the street accepts paper as he does the air he breathes and the water he drinks.

"The purpose of this Public Relations Campaign is merely to project our Industry to the public and explain to them how vital paper is to them in their every day life so that the Pulp and Paper Industry will have the public's interest and sympathy to assist us in solving the problems we face today and the even more pressing problems which are sure to confront us in the post-war period.

Need for Campaign Apparent

"The reasons why we should have a Public Relations Campaign now are apparent. Such a Public Relations Campaign requires a great deal of study and groundwork, and the campaign must be under way for some time before the effects become apparent. Therefore, a Public Relations Campaign should be regarded in the same way as fire prevention methods—you have to have a fire department to put out a fire before a fire starts. If you waited for the fire to start before organizing a fire department, your house would most certainly burn down.

"Public Relations has been defined as follows: The one fundamental purpose of a Public Relations program is the creation of a favorable opinion of a business, an industry, a government, or any institution which needs the good will of the public.

Every Possible Angle Covered

"This Public Relations Committee has worked diligently and hard and has covered every possible angle. Certain conclusions have been reached and a program is now ready to be presented to the American Paper and Pulp Association. If this meets with the approval of the American Paper and Pulp Association. and the Industry, a Public Relations Campaign for the Paper Industry of the United States can be started in the early part of 1944."

Must Comply with Wage Hour Law

Federal Judge Mortimer W. Byers, in the Eastern District Court, Brooklyn, has signed a consent judgment directing two Brooklyn waste paper and twine concerns, owned and operated by the same people, to comply with all of the provisions of the Fair Labor Standards Act.

This was announced this week by John K. Carroll, Regional Attorney, U. S. Department of Labor, who named the defendants as T. Borelli & Sons, Inc.; Philip A. Borelli, and Peter Borelli, doing business as the Brooklyn Trading Company; and Philip A. Borelli, doing business as the American Paper Stock Company. Both concerns are located at the same Brooklyn address, 5113-5 Second Avenue.

Investigation of the concerns and their principals was made by inspectors from the office of Arthur J. White, Regional Director of the Wage and Hour and Public Contracts Divisions of the U. S. Department of Labor. The firms were found to have paid subminimum wages, failed to pay overtime, kept inadequate employment records, and shipped goods in interstate commerce in violation of the Wage-Hour Law.

The Federal Court judgment provides that restitution to 22 employees be paid, in the amount of $3,960.04. Of this, $3,818.97 goes to employees of the Brooklyn Trading Company and $141.07 to employees of the American Paper Stock Company.

Paper Supply Becoming Tighter in Midwest

Demand For All Grades Still Rising Above Supply With Lower Grades Being Used For Publication Printing—OPA Head Talks To Salesmen — Waste Paper Drive Successful — Other News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., November 15, 1943.—The Chicago paper market presented no change in front this week with the exception of an increasing tightness and growing concern over the ultimate effect of the pulp re-allocation program. Several mill representatives here reported re-allocations which directly affected them and were busily engaged in determing why certain of these moves were made. Pulp is increasingly hard to get and the publicity surrounding the paper mill situation has caused buyers to move in on hard pressed selling agencies with even greater determination. Restrictions on coated papers for magazine use were simply creating a greater demand for the lower grades of paper all of which is expected to have far reaching effect in post-war days. Sulphites remained very strong while krafts and groundwoods were concentrating on the job of trying to "dig themselves out of a hopeless tangle" as one paper executive expressed it. Hope was evidenced in some quarters that OPA restrictions on the "hold the line" policy would be somewhat lightened to move production where pricing inequities have developed but manpower continued to be the major problem according to local reports.

OPA Head Speaks to Salesmen

Raymond McKeough, regional administrator for the Office of Price Administration, was the guest speaker at the Monday noon, November 8, meeting of the western division of the Salesmens Association of the Paper Industry. He was introduced by member Frank Foley of the Blandin Paper Company. Mr. McKeough did not adopt the role of a prophet nor hold out any particular hope for revisions of the pricing order, stating that the major task of all business was to check inflation and squeeze out any semblance of over-great profits before readpustments could possibly be expected. He concentrated on a most interesting history of the battle against inflation, outlined the heavy costs of inflation after the first World War, forecast what could conceivably happen if rigid controls were not put into effect and stressed the work of the Administration in leaving no stone unturned to check the upswing before it could get started.

The Association also begain a preliminary discussion of plans for its annual Christmas party and left the subject up for discussion at next week's session which will be a round table discussion affair. "Pat" Patterson of the Flambeau Paper Company, was chairman of the McKeough meeting.

Chicago Group Active in End-Use Program

Edwin Lennox, Chicago co-chairman of a joint committee of New York and Chicago commercial printing industry representatives to study paper use regulations as they affect that business, has announced that the program will not be restricted to New York and Illinois but will be extended to other areas shortly. The committee is reported to be seeking a share in shaping regulations with respect to the graphic arts industry; specifically with respect to the end use of paper and it is expected that it will prove a most helpful force in making Congress and administration officials understand the problems of the graphic arts industry so that "any paper reduction program now in effect or later ordered may affect all users equally".

The Committee will consult and advise with agencies of government and business organizations for the purpose of conserving present paper and pulp supplies and of increasing the supply of manpower in the woods and in the mills of the suppliers and manufacturers.

Cherry River in New Offices

According to J. I. Heyer, western sales manager of the Cherry River Paper Company, the new location of the sales offices in the Palmolive Building is now set to receive guests. Offices were moved from the Conway Building at 111 W. Washington Street to the 24th floor of the Michigan Avenue Building—more commodious and, reportedly, more advantageous to the business of the company.

Merchant Adds New Line

The North American Pulp and Paper Company's line of Briteness Offset has been added to the representative stock of the Swigart Paper Company during the past month.

Salvage Drive is Successful

The Armistice Day salvage drive in Chicago was reported to be a huge success by W. L. McFetridge, chairman of the drive. Millions of pounds of waste paper and scrap were piled along the street curbs and collected by City trucks with waste paper providing the greatest quantity. The exact amount of materials collected is not definitely known but the set goal of 5,000,000 pounds of paper and metal was surpassed, according to early reports. More than 700 city trucks were used to make the collections and all collections were dispersed to mills in the middle west that have been partially idle in recent weeks because of a shortage of these materials. It was announced that the paper and scrap metal collected would be in progress of actual conversion within ten days. All money derived from the sale of the salvaged materials is to be donated to the servicemen's centers in Chicago.

Paper Napkins are Scarce

According to the Chicago Restaurant Association the War Manpower Commission has ruled that restaurants may use linen napkins without losing their classification of "locally essential" provided paper napkins cannot be obtained. Before using linen napkins, however, the restaurant is expected to order paper napkins and have on record a letter from the paper concern that the order cannot be filled. Furthermore, restaurants are expected to return to the use of paper napkins whenever they become available.

Canadian Pulp Now Government Controlled

Dominion's Wartime Prices and Trade Board Announces New Order For Pulp Regulation Effective November 15 — Renewed Drive For Collection of Waste Paper Making Satisfactory Progress.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., November 15, 1943.—In view of what it terms the "critical shortage" of pulpwood, the Canadian Wartime Prices and Trade Board has announced a new order empowering the pulp administrator to control all pulp supplies, this control covering the kinds, standard, qualities, quantities, deliveries and shipments of woodpulp, perticularly for export trade.

The order is effective today, and the announcement says it was designed to prevent available supplies of wood for pulp being used faster than the administrator feels is expedient. As use of woodpulp in Canada already is controlled, officials said the order has "particular application to the control of woodpulp for export."

The order provides that all persons who sell, distribute, deliver, or ship woodpulp (whether or not they manufacture it) must file with the administrator their licence numbers and business addresses within 10 days after the order is effective. Any changes of address or changes in the name or character of business must be reported within 10 days after the change is made. Each person affected by the order must make returns and furnish any information requested by the administrator.

Salvaging of Paper in Progress

Coincident with the experiments under way in the United States for pulping newspapers and using them again in the manufacture of newsprint, a renewed drive for the salvaging of paper is in progress in Canada. Up to the present time salvage efforts as applied to newspapers have been somewhat embarrassing. At one time most of the newspapers in the country, acting under semi-official representation carried in each issue a plea to save the paper for salvage purposes. This resulted in huge piles of salvaged newspapers being stacked up in warehouses, and then it was found that nobody apparently had much use for the used papers. Thereafter collection of newsprint was discouraged. Now, however, salvage officials are again turning their attention to paper. An organization known as the War Services Co-ordinating Council has been making money out of salvage, using the profit on providing comforts for the armed forces.

Gustave A. Langevin, chairman of the Montreal Salvage Committee, has announced that, beginning today the Council has decided to make a special drive for salvaging of paper and has appealed to householders to save all they can.

To Develope Streamlined Program

The following letter which is self explanatory has been sent out by V. E. Hecht, vice president of the Zellerbach Paper Company, 534 Battery Street, San Francisco, Cal:—

"This letter is being directed to the Secretary of the National Paper Trade Association and to several paper manufacturers whose products we merchandise in the Pacific Coast trading area. It has been mimeographed in order that valuable time in our stenographic department may be conserved, but this in no way lessens the importance of its message.

"In our post-war planning, we, like other paper merchants, are giving serious consideration to sampling. "After-duration" papers, as well as those now available, will unquestionably be different than those of pre-war days, necessitating, as a consequence, a complete new sampling operation. Because of this, the industry is afforded the opportunity of developing a new, modern, streamlined program which should be far superior to the many plans and methods now in use.

"There are some who argue that samples in unit-book or file-folder form, for placement in cabinets, are not necessary at all, but in this, we do not agree. We do feel, however, that large sums can be saved if a less expensive, yet more practical method of sampling were devised than any of those now in use.

"We have long considered the advisability of scrapping our steel cabinets which contain 6 x 9 unit books, but because of our heavy investment, we have refrained. Assuming that we will have to issue complete new samples after the war, we would like to give consideration to discarding our present method for one having greater utility and being less costly.

"Inasmuch as this is a matter of interest and concern to the whole industry, I am wondering whether you would think well of the idea of having an agency such as the National Paper Trade Association arrange for a meeting or series of meetings of manufacturers, merchants, printers, commercial artists, advertising agents and publishers for a thorough discussion of this subject, believing that from such deliberations, some practical and worthwhile plan could be evolved.

"I am quite sure that if such a committee were appointed, splendid cooperation would be accorded by the various agencies. I would appreciate your comments. It may be that from this exchange of correspondence, some actual planning may be undertaken."

Paper Man Talks to Rotarians

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., November 15, 1943.—C. M. Green plant manager of the Mosinee Paper Mills Company, Mosinee, Wis., spoke on the pulpwood shortage and its effect on the mills at a meeting of the Rotary Club at Marshfield, Wis. last week. He urged cooperation in the drive for more extensive cutting, pointing out that some mills may be obliged to close down if raw material is not forthcoming. Mr. Green also described the numerous uses for paper for war purposes, and showed exhibits of new products that have been developed by the industry.

Canada Speculates on Post-War Newsprint

Potential Market In U. S. For 2.3 Million Tons of Newsprint Paper Annually Is Current Estimate Which Also Considers Scandinavian And Newfoundland Competition — Other Late Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., Nov 15, 1943.—What is going to happen after the war is over, seems to be one of the most absorbing subjects being considered by Canadian business men these days. Writing in the *Financial Post* this week, J. E. Langdon takes a look at the position of Canadian newsprint manufacturers in the post-war period. He has it pretty well figured out that Canadian newsprint interests should have a market in the United States for 2.3 million tons of newsprint in the after-war period.

It is pointed out that after the last war Canada was supplying 33% of the requirements of United States publishers and that this gradually increased until immediately before the beginning of the present conflict she was supplying her neighbor with two out of every three tons of newsprint required and presently is supplying about 77% of U. S. requirements.

It is not yet known to what extent Scandinavian newsprint facilities have been damaged by the war or how soon those countries will again be a factor in the newsprint market, but this competition is not being overlooked by Canadian newsprint manufacturers in their post-war speculations.

Other factors being considered are the possibilities residing in the fact that U. S. mills fall so far short of supplying domestic demands that the establishment of new mills, either in the Southern States or Alaska, would not seem to be too remote and the direction of Newfoundland trade in the immediate future. Our sister Dominion in the past has sent most of her newsprint exports to Great Britain. Shipping difficulties and other effects of the war have developed a marked change in the Island's interest in the U. S. market. While before the war most of the production from the Island's two mills went overseas, around 300,000, tons, about half that amount is presently going to U. S. publishers. It is only reasonable to expect that some of this new business will be retained after the war, even though Newfoundland is expected, quite naturally, to do her best to reestablish her European business. On the assumption that even if Newfoundland and Scandinavian countries are able to restore or maintain their position in the American market, there will still be a potential market for Canadian mills of something like 2.3 million tons annually.

Another favorable feature, according to Mr. Langdon, is the trend in recent years for U. S. mills to switch production from the low-margin newsprint to more profitable lines. The sum of this writer's cogitations on the future possibilities for Canadian newsprint manufacturers seems to be that unless a totally unexpected rift in the relations between American publishers and Canadian mills, the latter will have all the business they want in the post-war period, but how profitable it will be will depend upon the price competition of Scandinavian mills.

Pulpwood Situation Grave in Ontario

Faced with the prospect of a grave wood shortage, every paper mill in northwestern Ontario may have to close down next fall unless there is an improvement in the pulpwood supply meanwhile, according to Alderman George McComber, of Port Arthur. Mayor C. W. Cox of the same city said the situation resulted from a policy which permitted large quantities of pulpwood to be exported to the U. S. despite acute shortages in Canada. Last year 350,000 cords were exported, he said.

Mill Earnings Reflect Improvement

Bathurst Power and Paper Company's earnings are reported to have taken a turn for the better. High water conditions have eliminated power shortages and with better than an average wood pile, prospects are regarded as favorable for the balance of the year.

In spite of reduced sales, profits of Minnesota and Ontario Paper for the nine months to September 30 show an increase, although this improvement is largely eliminated when it is considered that 1942 tax provisions were overstated, the figures being preliminary as of this time last year and since then definitely determined and revised downward. Earnings for the quarter ending September 30 are above the quarterly average for the year, although here again tax provision reflects some adjustments properly applicable to the first two quarters. Sales for the quarter are slightly below the average for the year to date. Figures for bond interest payments indicate that a substantial reduction has been made in the funded debt of the company since December, 1942.

Newsprint Declines in October

Production of newsprint in Canada during October 1943 amounted to 259,336 tons and shipments to 261,594 tons according to the News Print Service Bureau. Production in the United States was 63,470 tons and shipments 63,209 tons, making a total United States and Canadian newsprint production of 322,806 tons and shipments of 324,803 tons. During October, 24,423 tons of news print were made in Newfoundland, so that the North American production for the month amounted to 347,229 tons. Total production in October 1942 was 377,594 tons.

The Canadian mills produced 204,996 tons less in the first ten months of 1943 than in the first ten months of 1942, which was a decrease of seven and six tenths percent. The output in the United States was 126,715 tons or fifteen and eight tenths percent less than in the first ten months of 1942, in Newfoundland production was 50,833 tons or twenty-one and four tenths percent less, making a total decrease of 382,544 tons, or ten and three tenths percent less than in the first ten months of 1942.

Stocks of news print paper at the end of October were 61,133 tons at Canadian mills and 14,808 tons at United States mills, making a combined total of 75,941 tons compared with 77,938 tons on September 30, 1943, and 106,575 tons at the end of October 1942.

This is Synthetic Rubber

If America now has only a mere "handful" of natural rubber, it doesn't matter so much because synthetic rubber production is well on its way.

Pictured here is a handful of just one of the five basic commercial types of synthetic rubber—basic materials that are being turned into all of the things for which we used to rely on natural rubber.

Like natural rubber, the synthetic rubbers lend themselves to a great variety of processing treatments. Each type has distinct properties and characteristics that fit it for specific tasks.

For instance, one synthetic rubber, when treated a certain way, can be fabricated into the remarkable bullet-sealing hose which has so vastly increased the safety of our fighter plane and bomber crews . . . a different type, differently processed, may be the one that will produce rotary drilling hose for oil fields, or the compressed air hose for manufacturing plants.

Still other types of synthetic rubber may go into transmission or conveyor belts, mechanical packings, or any of the innumerable other mechanical rubber goods that serve on our battle fronts and in our war industries today.

You need not worry about *this* type of synthetic rubber or *that* one. Your great good fortune is that they will be available—at hand for skilled and experienced hands to transform as needed into what is needed.

Since 1921 the United States Rubber Company has been experimenting with and developing the possibilities of synthetic rubber . . . has been in practical production of synthetic rubber products since 1931.

Listen to the Philharmonic Symphony program over the CBS Network Sunday afternoon, 3:00 to 4:30 E. W. T. Carl Van Doren and a guest star present an interlude of historical significance.

1230 Sixth Ave., Rockefeller Center, New York 20

UNITED STATES RUBBER COMPANY

Government Makes Paper Awards

WASHINGTON, D. C., November 17, 1943.—The Stanford Paper Company has been awarded the contract for furnishing the Government Printing Office with 187,500 pounds of 25% rag, white bond paper at 15.18 cents. Other paper awards announced by the Printing Office include the following:—

The Cauthorne Paper Company will furnish 7,816 pounds of kraft envelope paper at 7 cents and Coy, Hunt & Co. will furnish 100,000 pounds of white MF poster paper at 7.275 cents. The Stanford Paper Company will furnish 324,000 pounds of 25% rag white bond paper at 15.36 cents and Monadnock Paper Mills will furnish 187,500 pounds of same at 15.76 cents.

The Mudge Paper Company will furnish 120,000 pounds of white index paper at 7.95 cents and the Whitaker Paper Company will furnish 225,600 pounds of manila tag at 6 cents. D. L. Ward Company will furnish 165,456 pounds of bristol white wood index paper at 8.68 cents and the Virginia Paper Company will furnish 200,000 pounds of white sulphite index paper at 7.85 cents.

The R. P. Andrews Paper Company will furnish 106,155 pounds of Vac Cup Bac poster paper at 7.3 cents and the same firm will also furnish 287,000 pounds of white chemical wood writing paper at $20,-262.20.

The Mead Sales Company, Inc., will furnish 73,800 pounds of machine coated paper at 7.13 cents. The same firm will also furnish 99,500 pounds of the same at the same price. Mead Company will also furnish 332,000 pounds of the same at 7.66 cents and also 554,000 pounds of the same at 6.6 cents. Barton, Duer & Koch Paper Company will furnish 300,000 pounds of 25% rag white bond paper at $14.44 per cwt. and the Mead Sales Company, Inc., will furnish 130,032 pounds of machine coated paper at 7.13 cents.

R. P. Andrews Paper Company will furnish 72,230 pounds of tan jute bristol at 10.25 cents and the Stanford Paper Company will furnish 103,000 pounds of water resisting coated paper at 14.31 cents. Paper Corp. of U. S. will furnish 730,000 pounds of tan bristol cover paper at 9.75 cents and Barton, Duer & Koch Paper Company will furnish 32,800 pounds of white machine coated paper at 5.87 cents.

The Stanford Paper Company will furnish 12,800 sheets of eight point coated bristol paper at $37.05 per M sheets and the Great Northern Paper Company will furnish 300,000 pounds of newsprint paper at 2,925 cents. The same firm will also furnish 150,000 pounds of the same at the same price. The Marquette Paper Corp. will furnish 22,000 pounds of white supercalendered book paper at 7.20 cents and the Whitaker Paper Company will furnish 10,240 pounds of white chemical wood bond paper at 9.35 cents.

The Mead Sales Company, Inc., will furnish 192,-000 pounds of English finish book paper at 6.94 cents and the Keith Paper Company will furnish 50,000 pounds of machine dried map paper, 50% rag, at 15.54 cents. Walker Goulard Plehn Company will furnish 40,000 pounds of 50% rag, white map paper at 16 cents and the Old Dominion Paper Company will furnish 5,000 pounds of 25% rag, yellow manifold paper at 22.44 cents.

Barton, Duer & Koch Paper Company will furnish 8,150 pounds of buff chemical wood index paper at 8.5 cents and the Mudge Paper Company will furnish 115,000 pounds of white chemical wood Ditto duplicating paper at 8.73 cents. The Mead Sales Company, Inc., will furnish 25,000 pounds of machine coated book paper at 7.37 cents and the Mudge Paper Company will furnish 160,000 pounds of white chemical wood Ditto duplicating paper at 8.73 cents.

Barton Duer & Koch Paper Company will furnish 34,400 pounds of melon wood bristol board at 6.25 cents and the R. P. Andrews Paper Company will furnish 160,000 pounds of poster paper at 7.3 cents. Zellerbach Paper Company will furnish 65,000 sheets of green unglazed manifold paper at $6.77 per M sheets and 33,000 sheets of white Baronet bond paper at $7.46 per M sheets.

Walker, Goulard, Plehn Company will furnish 10,-000 pounds of canary sulphite bond paper at 15 cents. The same firm will also furnish 63,000 pounds of same at the same price and 183,000 pounds of the same at the same price. Eastern Corporation will furnish 593,640 pounds of canary copy paper at 9.36 cents and the same firm will also furnish 228,888 pounds of pink copy paper at 9.36 cents and the R. P. Andrews Paper Company will furnish 50,000 pounds of binders board at 4.14 cents.

Urges Collection of More Waste Paper

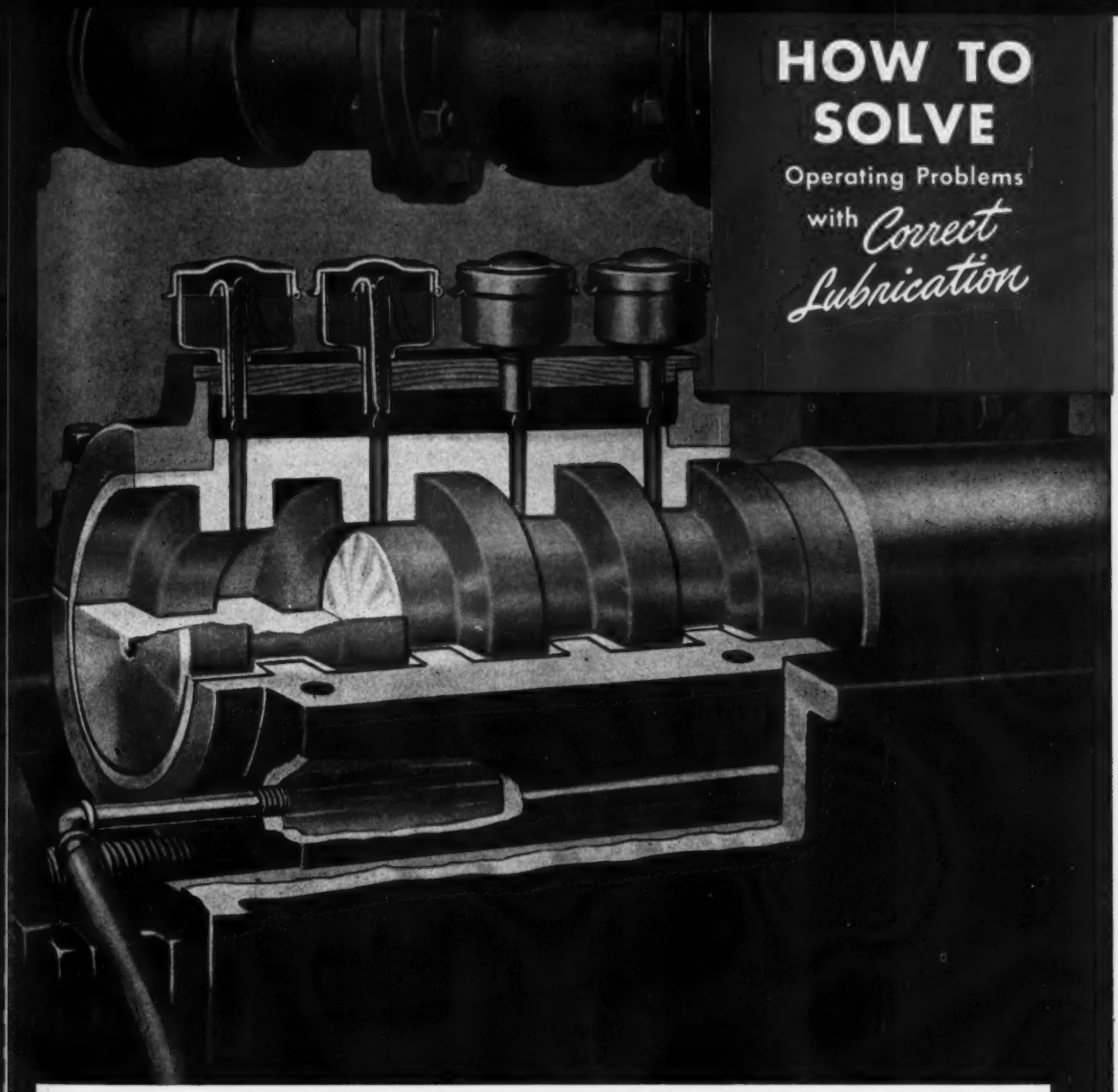
WASHINGTON, D. C., November 17, 1943.—James F. Byrnes, Director of War Mobilization, today urged a reinvigorated drive to conserve and salvage paper. "The war needs for paper and paperboard are greater than our present ability to produce," Justice Byrnes said. "We need to curtail all unnecessary uses, and to make sure all waste paper is saved for the Government Salvage Drive."

Justice Byrnes stated: "The shipment of bombs and shells depends upon paper bands and containers. Aircraft signals and parachute flares are made from waste paper. Rations, blood plasma, medicines, bullets—all find their way to the fighting fronts in paper containers.

"Waste paper is desperately needed by the nation's paper mills. Many mills are slowing up. Some are now operating only one shift where a few weeks ago they were working 24 hours. Last week one ammunition plant shut down completely until paper could be diverted to it in order to operate again.

"The mills are using up waste paper at a larger rate than present collections. Normally paper mills could use 7,500,000 tons per year. This year we shall be 1,500,000 short of our needed supply of waste paper, at the present rate of collection, 500,-000 tons per month. Concurrently, overall paper and paperboard shortage will be between 3 and 4 million tons.

Thus, to meet the demands, we must curtail all unnecessary use and then get all waste paper to local salvage committees or local charitable organizations and thence to the mills at once. Every scrap of paper that you can save and turn in will help. Go through your home, office or plant now and eliminate unnecessary use and get out every scrap of waste paper you have. It will all help to speed Victory," Justice Byrnes concluded.



HOW TO SOLVE

Operating Problems with *Correct Lubrication*

The Answer to JORDAN BEARING Wear:

JORDAN THRUST BEARINGS in normal operation are exposed to heavy pressures. Unless properly lubricated these bearings are subject to heating, excessive wear and possible failure.

Correct lubrication is vital to protect the bearings and prevent wear. This keeps your power consumption down and your production up!

On Jordans equipped with wick-fed collar thrust bearings, like those shown above, the oil used must have an exceptionally strong film with a persistent affinity for metal.

Gargoyle Vactra Oil has these characteristics. It sticks on this job (even under crushing radial and thrust pressures) to keep the bearings cool and reduce wear and power loss to a minimum.

GARGOYLE Lubricants

SOCONY-VACUUM OIL COMPANY, INC. — Standard Oil of N. Y. Div. • White Star Div. • Lubrite Div. • Chicago Div. White Eagle Div. • Wadhams Div. • Magnolia Petroleum Company • General Petroleum Corporation of California

CALL IN SOCONY-VACUUM

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week ending November 13, 1943

STOCKS

	High	Low	Last
A. P. W.	2½	2⅛	2⅛
Armstrong Cork Co.	36	34⅞	35⅛
Celotex Corp.	11⅝	10¾	10⅞
Celotex Corp, pf.	18⅛	17⅞	18
Certain-Teed Products Corp.	5⅛	4⅝	4⅞
Certain-Teed Products Corp., pf.	64½	57½	58
Champion Paper & Fibre Co.	19⅞	19½	19½
Champion Paper & Fibre Co., pf.	107½	107	107
Congoleum Nairn Co.	21¾	20⅜	21⅜
Container Corp. of America	20⅛	19⅛	19½
Continental-Diamond Fibre Co.	11¾	10½	10¾
Crown Zellerbach Co.	15½	14⅜	15⅛
Crown Zellerbach Co., pf.	98	96¼	96¼
Dixie Cup Co.	14	13⅞	14
Dixie Cup Co.—A	43½	42¾	43½
Flintkote Co.	20	18¾	19¼
Flintkote Co., pf.	107	107	107
Robert Gair	2⅞	2⅝	2¾
Robert Gair, pf.	12½	12½	12½
International Paper Co.	12¾	11½	12
International Paper Co., pf.	65½	61¾	64
Johns-Manville Corp.	86¼	83	85½
Johns-Manville Corp., pf.	129¼	128½	129¼
Kimberly-Clark Corp.	....	....	....
MacAndrews & Forbes	25¾	25	25¼
MacAndrews & Forbes, pf.	138½	138¼	138¼
Masonite Corp.	36¼	35¼	36⅛
Mead Corp.	8	7⅜	7⅝
Mead Corp., pf. A-6%	80	80	80
Mead Corp., pf. B-5½%	71⅜	70	71
National Container Corp.	12¼	10¾	12⅛
Paraffine Companies, Inc.	43	42	42
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	13	12⅛	13
Rayonier Inc., pf.	31½	30⅜	30⅜
Ruberoid Co.	25⅛	24¼	24½
Scott Paper Co.	38½	38	38½
Scott Paper Co., pf.	110	110	110
Sutherland Paper Co.	....	....	....
Union Bag & Paper Corp.	9⅛	8¾	8⅞
United Paperboard Co.	3⅞	3⅞	3⅞
U. S. Gypsum Co.	71½	69¼	69½
U. S. Gypsum Co., pf.	177½	177½	177½
West Virginia Pulp & Paper Co.	16¼	15½	15½
West Virginia Pulp & Paper Co., pf.	106⅛	106⅛	106⅛

BONDS

Abitibi Pulp & Paper Co., 5s '53	63⅜	63⅜	63⅜
Celotex Corp. 3¾s '55	100¾	100¾	100¾
Certain-Teed Products Corp. 5½s '48	100¾	100	100
Champion Paper & Fibre Co. 4¾s '50	....	....	....
International Paper Co. 6s '55	106⅜	106¼	106¼
International Paper Co. 5s '47	104	104	104
Mead Corp. 3½s '53	....	....	....
West Virginia Pulp & Paper Co. 3s '54	103½	103½	103½

New York Curb Exchange

High, Low and Last for Week Ending November 13, 1943

STOCKS

	High	Low	Last
American Box Board Co.	7⅜	7¼	7¼
Brown Co., pf.	....	....	....
Great Northern Paper Co.	32	30½	31½
Hummel-Ross Fibre Corp.	4	3¾	4
St. Regis Paper Co.	3	2¾	2¾
St. Regis Paper Co., pf.	137	134	134
Taggart Corp.	4¼	4	4¼

BONDS

American Writing Paper Co. 6s '61	96	96	96

Oxford Earnings Up

Earnings of $704,530.38 in the nine months ended September 30, 1943, compared with $376,372.37 net earnings for the nine months ending the same date the previous year, were shown in the consolidated income account of the Oxford Paper company and wholly owned subsidiaries recently released.

The earnings set forth in the statement are shown by the books of account as of the respective dates indicated, without adjustments, and after provisions for Federal taxes on income accrued at rates imposed by the revenue act of 1942, based on the first nine months earnings projected to an annual earning basis and are before audit by independent public accountants.

Figures for the three months ended September 30, 1943, show gain from operations before depreciation $703,443.01; other income, net, $19,591.49; a total of $723,034.50. Depreciation was listed at $208,195.97 leaving $514,838.53. Interest on bonds and notes of subsidiary companies listed at $17,761.39 made earnings before Federal taxes $497,077.14. Provision for Federal income and excess profits taxes was $262,900 leaving net earnings of $234,177.14.

Certain-teed Profits Off

The Certain-teed Products Corporation and wholly owned subsidiaries for the nine months to September 30 reports net profit, subject to renegotiation and after $367,310 taxes, was $471,418, equal to $7 each on 67,373 shares of preferred stock, compared with $800,797 or $10.96 each on 73,069 preferred shares last year, when $1,173,202 was provided for taxes. Results do not include any part of earnings of Sloane-Blabon Corporation, in which Certain-teed is a substantial stockholder. For first nine months of 1943, this company had net profit of $237,584, against one of $298,706 in period in 1942.

Scott Co. Nets $1.49

The Scott Paper Company for nine months' reports consolidated net earnings after provision for preferred dividends amounted to $998,619, equal to $1.49 a common share, against $1,049,738, or $1.57 a share, last year.

C. F. Crehore & Son Incorporate

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., November 15, 1943.—A charter of incorporation has been issued to C. F. Crehore & Son, Newton, Mass., manufacturers of paper. Capital stock is $50,000. Incorporators are Carroll D. Cate, Binghamton, N. Y.; Joseph W. Bartlett, Newton, Mass., and Anna T. Scheirer, Watertown, Mass.

H. H. Weber to Be General Manager

H. H. Weber, it is announced, will succeed his father, the late Herman G. Weber, as general manager of H. G. Weber & Co., manufacturers of paper bag high speed machinery at Kiel, Wis. Mr. Weber has been associated with his father in the business since 1936, previous to which time he was associated with Thomas M. Royal & Co. for eight years.

To be Resident Manager at Portland

Appointment of Milton J. Maguire as resident manager of the company's Portland, Oregon office, was announced today by Hercules Powder Company.

Mr. Maguire, who succeeds the late A. C. Duncan as head of the Paper Makers Chemical Department office, has been assistant manager at the company's PMC plant at Holyoke, Mass., since 1939. Prior to that, he was manager at the department's Albany, N. Y., office.

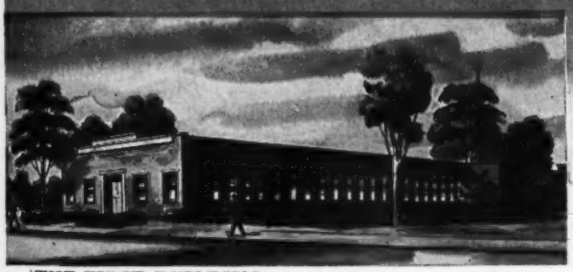
He will be aided by J. V. B. Cox as assistant manager.

FORTY YEARS OF *Sincere Service* TO THE PAPER INDUSTRY!

HAMILTON LINDSAY—FOUNDER
President, 1903-1932

FORTY YEARS . . . a long time! Much has happened in four decades; much has changed.

The importance of *quality* has *not* changed. Today, it is more paramount than ever. Year after year the quality of Fourdrinier wire cloth has improved in reference to mesh, seaming, selvedge, and the metal itself. Over-all, the width of Fourdrinier wires has nearly doubled to cope with new requirements as they arose, and special applications have been multiplied many-fold.



THE FIRST BUILDING . .

. . THE PLANT TODAY

Lindsay serves the paper industry exclusively. We have sought to contribute materially since 1903 to the progress of wire cloth manufacture and hence to the quality of paper. Forty years of such specialization necessarily create for us an obligation to do our part just a little better every day. Lindsay wire cloth will continue to uphold those ideals of excellence which were set for us by our founder.

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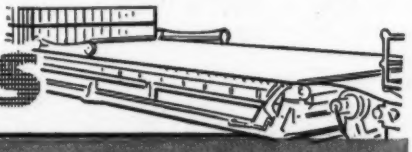
Serving the Paper Industry Since 1903
14001-14299 ASPINWALL AVE. CLEVELAND 10, OHIO



Lindsay **WIRES**

FOR PAPER MILLS

Newsprint Advisory Committee Meets

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 17, 1943.—Harold Boeschenstein, acting director of the Forest Products Bureau, met with the newly appointed Newsprint Manufacturers Industry Advisory Committee yesterday and outlined the problems confronting the WPB and the paper making industry.

The organization session of the Advisory Committee was presided over by Rex W. Hovey, Director of the Paper Division, who stated that the immediate problem was to see if U. S. newsprint manufacturers could effect reduction in consumption of the basic raw materials, wood and pulp.

Mr. Boeschenstein spoke of the pulp and pulpwood shortages with the resultant immediate need for further paper curtailment. He urged the increased use of waste paper, although he pointed out that at best it would only partially solve the difficulty and asked for the cooperation of the papermakers in increasing the yardage of newsprint.

The session was also addressed by David Graham, Chief of the Office of Pulp Allocation, and Arthur G. Wakeman, Consultant to Mr. Boeschenstein.

Committee members present were: J. L. Hobsen, treasurer, St. Croix Paper Company, 15 State street, Boston, Mass.; R. A. McDonald, vice-president, Crown-Zellerbach Corporation, 343 Sansome street, San Francisco 4, Calif.; Samuel Pruyn, director and sales manager, Finch, Pruyn Paper Company, Glens Falls, N. Y.; and Harold Smith, president, Maine Seaboard Paper Company, 444 Madison avenue, New York 22, N. Y.

The two other members unable to attend the first session are: E. L. Kurth, president, Southland Paper Mills, Lufkin, Texas, and C. B. Stanwood, Assistant Manager of Manufacture, Great Northern Paper Company, 201 Devonshire street, Boston, Mass.

Following the organization of the committee, which met chiefly to be advised as to problems confronting the industry and the facts pertinent thereto, the meeting adjourned to meet here again on December 15.

Paper Man Endorses N. A. M. Program

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., November 15, 1943.—Norman W. Wilson, president of Hammermill Paper Company, and a member of the board of directors of National Association of Manufacturers, has heartily endorsed the program of policies which this association has asked its nearly 110,000 members to follow in the pursuit of maximum war production and postwar prosperity.

On the premise that "good industrial relations are good business", Mr. Wilson pointed out that the association backed an eight-point policy which frankly recognizes that high morale and good teamwork are essential to successful business. He said it was a recognized fact that "industrial peace promotes industrial prosperity." Briefly, the basic factors which affect employment relationships, the National Association of Manufacturers' industrial relations committee contends, are these:

A considerate and orderly hiring procedure; a wage scale in harmony with those prevailing within the industry or for the same type of work within the community with proper emphasis placed upon ability, experience, and personal qualifications; established machinery for promotions, layoffs and dismissals; specific rules governing vacations, overtime and other working conditions; an impartial system of handling complaints, grievances and misunderstandings; a definite training program for supervisory personnel; provision for keeping employes informed on company policies and questions pertaining to employment; a written statement defining company policies and practices.

Many Mills Need More Waste Paper

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., November 15, 1943.—Paper mills in this area are operating on a "hand-to-mouth basis" and are threatened with shutdowns this winter unless waste paper collections are speeded up before bad weather interferes with transportation. The local situation was classed as particularly acute, following a regional War Production Board survey this past week. It showed mills with only one or two days' supply of waste paper on hand, in contrast to a national average of seven days' supply. At this time last year, the national inventory averaged 27 days.

One mill has cut operations to four days a week. Another, at York, was closed five out of the last fifteen days. Downingtown mills have no backlog of waste paper and one mill is closing Saturdays and holidays. Philadelphia and Camden mills, employing about 1000 persons, are "operating without satisfactory inventories." Instead of sorting waste paper as it comes in, which has long been the custom, paperboard mills now dump it directly from trucks into machines.

Herbert Kieckhefer, chairman of the national executive committee of the Waste Paper Consumer Industries, pointed out that with no surplus in this area little relief can be expected from outside. The national inventory has dropped to 37,000 tons from 100,000 in July.

State and local salvage committees are being notified by WPB officials of the critical situation and have been asked to intensify efforts to collect sufficient paper to carry mills through the winter.

Packaging Machinery Elects Officers

At the annual business meeting of the Packaging Machinery Manufacturers Institute, held on November 4, 1943, at the Hotel New Yorker, New York City, the following officers were unanimously elected:

President: George A. Mohlman, president, Package Machinery Company, Springfield, Mass.

Vice President: H. Kirke Becker, president, Peters Machinery Company, Chicago, Illinois.

Vice President: Frank .B. Fairbanks, president, Horix Manufacturing Co., Pittsburgh, Pa.

Three directors were elected by the membership tc serve for a three-year term, as follows: Frank B. Fairbanks, president, Horix Manufacturing Company, Pittsburgh, Pa.; H. Lyle Greene, vice president, J. L. Ferguson Company, Joliet, Ill.; George A. Mohlman, president, Package Machinery Company, Springfield, Mass.

WLB Orders Employee Discharged

BOSTON, MASS., November 15, 1943.—The New England War Labor Board has ordered the Brown Company, Berlin, N. H., paper manufacturer, to discharge Ernest Turgeon, an employe, as a result of a walkout staged by some 3000 workers last Wednesday over his continued employment.

OPA Appoints Price Executive

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Nov. 17, 1943—J. Ronald Atwater has been appointed Price Executive of the Paper and Paper Products Branch of the Office of Price Administration, Chester Bowles, Administrator, announced today.

At the same time, Mr. Bowles announced he had accepted the resignation of James A. Perkins as Price Executive, effective as of November 13. Mr. Perkins resigned to accept a position with the Foreign Economic Administration as Assistant to Lauchlin Currie, Deputy Administrator of that agency.

Mr. Atwater has been in the Paper and Paper Products Branch since the fall of 1941 and for the last year has been Chief of the Fine Paper Section. He went to OPA directly from the paper industry, with which he had been associated all his business life, having been employed by the Mead Corporation at its plants in different parts of the country.

Mr. Perkins, who starts next week on his new job, is a veteran of OPA. He was "drafted" to serve with the agency in June, 1941, going from Princeton University, where he was the Assistant Director of the School of Public and International Affairs.

His first assignment was in the Zinc, Lead and Tin Section of OPA. He then became head of the administrative operations of the Price Department. Later he was named Associate Price Executive of the Paper and Paper Products Branch and finally was made Price Executive.

WPB Changes Reserve Production

WASHINGTON, D. C., Nov. 17, 1943—In view of questions arising in connection with the administration of WPB Conservation Order M-241, covering paper and paperboard manufacture, Rex W. Hovey, Director of the WPB Paper Division and G. G. Otto, director of the Paperboard Division have released the following statement:

The Federal Register of November 16, 1943, will prescribe the following:

Direction I to General Conservation Order M-241.

RESERVE PRODUCTION PERCENTAGES

Effective December 1, 1943, and until otherwise directed, each manufacturer of paper or paperboard shall, instead of the 10% reserve fixed by paragraph (d) of order M-241, reserve in each calendar month in the production of each of his mills, time and supplies sufficient to produce and deliver within such month the following percentages of the mill's finished production:

Class	WPB-514 Caption	Percent
Paperboard	50000 to 59900 Inc.	35
Paper	All other captions	15

This is the first change in reserve production percentages made by the WPB since Order M-241 was revised on October 16, authorizing increases of paper and paperboard reserve production, especially as it affects governmental orders.

Groveton Mill Workers with AFL

WASHINGTON, D. C., November 15, 1943.—The International Brotherhood of Pulp, Sulphite and Paper Mill Workers and International Brotherhood of Paper Makers (AFL) have been selected bargaining agents for employees of Groveton Papers Company, Groveton, N. H., the National Labor Relations Board announced last week.

Pulpwood Drive Forging Ahead

The $3,500 Victory Pulpwood Campaign contest was opened three months ago to over 1600 weekly and small daily newspapers in 27 pulpwood producing states in the Northeast, South, Appalachian and Lake States, states the Newspaper Pulpwood Committee, 370 Lexington avenue, New York. More than 1200 local pulpwood committees have been formed and are conducting community and county drives to avert a threatened 2,500,000-cord pulpwood shortage this year.

Sattis Simmons, publisher of the Jackson Herald, Ripley, W. Va., who proposed and carried through a successful county-wide plan to cut a cord of pulpwood for every local boy in the armed service, has been awarded first prize of $1,000 in War Bonds, Walter M. Dear, chairman of the Newspaper Pulpwood committee, was advised by the War Activities Committee of the Pulpwood Consuming Industries. Thirty-two additional prizes were awarded.

The response that Jackson County gave to the Herald's proposal even amazed its publisher. More than 2200 cords of pulpwood had been cut and additional thousands of cords had been sold and pledged. A quota of six cords for each local service man now seems assured.

As a result of the local pulpwood campaign, a new industry was started in Ripley, according to Mr. Simmons. The West Virginia Pulp and Paper Company consider future production possibilities so promising that it has arranged for car sidings and a yard where pulpwood is paid for in cash on receipt.

"Conclusion of the contest does not in any way terminate the Pulpwood Campaign", Mr. Dear said. "On the contrary the campaign will be given greater emphasis between November 11 and December 11 with the slogan created by Mr. Simmons:

"Cut-a-Cord of Pulpwood for Every Local Boy in the Armed Service."

G. E. Carpenter Appointed Consultant

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Nov. 17, 1943—Appointment of G. E. Carpenter, Omaha, Nebraska, vice president of the Carpenter Paper Company, as consultant to the Paper Section of the Office of Civilian Requirements was announced today by WPB Vice Chairman Arthur D. Whiteside.

Mr. Carpenter is a graduate of the University of Nebraska and has been in the paper business for many years. He served as a member of War Industries Board in World War I.

Appointment of Mr. Carpenter came as a result of the recommendation of the Paper Merchants Advisory Committee that a man with wide experience in paper distribution be added to the staff, Mr. Whiteside said. Mr. Carpenter will act as advisory to OCR on all matters affecting paper distribution and the formulation of policies in regard to paper products. He will serve on a dollar-a-year basis.

Valley Iron Works Plans Addition

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, WIS., November 15, 1943.—The Valley Iron Works, Appleton, Wis., is planning to erect a plant addition to house a crane. The structure will be of brick and will be 40 by 61 feet. Its estimated cost is $8,600.

Gummed Industries Elect Officers

At the annual meeting of the Gummed Industries Association, which was held in Cleveland, Ohio, at the Hotel Carter, on November 11, Roth F. Herrlinger, president of the Gummed Products Company of Troy, Ohio, was again named president of the association for a second term, and John MacLaurin, president of the McLaurin-Jones Company of Brookfield, Mass., was named vice-president.

Philip O. Deitsch, managing director of the Gummed Industries Association, was again unanimously appointed to that office for an additional term.

The following directors, in addition to the President and Vice-President, were also chosen:

E. J. Durkin, The Tanglefoot Company, Grand Rapids, Mich.; R. A. Maish, Dennison Manufacturing Company, Framingham, Mass.; William Mazer, Hudson Pulp & Paper Corporation, New York, N. Y.; Irving McHenry, Mid-States Gummed Paper Company, Chicago, Ill.; F. A. O'Neill, Jr., Paper Manufacturers Company, Inc., Philadelphia, Pa.

The crowded agenda of this Convention, and the wide-spread interest in the subjects covered, brought comment by many veterans of the Gumming Industry that the Annual Convention of the Association this year was the best it had ever held in the entire organized history of the gumming industry, which dates back some 17 years.

The industry also voted unanimously to establish a special Reserve Fund by an assessment of all members of an "amount equal to 50% of their 1943 dues," such Reserve Fund to be used by the Association to finance any emergency demand for increased activity on the Association's part as a result of the call of War Agencies, and for such other purposes as the Directors and Finance Committee shall decide.

The members of the Industry were particularly enthusiastic in support of the Association's policies which had resulted in the building of one of the strongest and most effectively coordinated units of the Paper Field during the past five years.

All Officers and Directors elected at the Annual Meeting will serve until the next Annual Convention of the Association, which is scheduled again for November 11 and 12, 1944.

Alien Chemical Patents

The chemical patents and patent applications vested in the Alien Property Custodian have been abstracted by the Chicago Section, American Chemical Society and are now being indexed by a committee of the Science and Technology Group, Special Libraries Association. Beginning in January, 1944, these abstracts will be published in 31 classified, indexed pamphlets, to be followed by a master index and a supplement of new abstracts. The prices, if demand is adequate to justify them, will be $1.00 for any booklet and $25.00 for all 33 booklets. Many libraries will want a reference copy and a circulating copy. The paper situation necessitates close adjustment of the printing to the known demand; orders should be placed not later than December 10 to make sure of receiving copies. Order blanks (already sent to all members of the American Chemical Society and of the Science-Technology Group, Special Libraries Association) may be had from the Alien Property Custodian, Field Bulding, Chicago 3, Ill.

ELIXMAN

CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

CORES

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.

CORINTH, N. Y.

Beach Products Buys Building

KALAMAZOO, MICH., November 15, 1943. — Announcement of the purchase of plant No. 3 of the Kalamazoo Stove and Furnace Company by Beach Products, Inc., with delivery to be effected after the war was made by R. W. Beach last week. Negotiations have been under way between Mr. Beach and Arthur L. Blakeslee, president of the stove company, for some time.

Beach Products, Inc., manufactures Handi-Set paper products, and the company is looking forward to a greatly expanded business when hostilities cease. The firm is already crowded in its Factory street site, and its officers are convinced that demands in the postwar era will greatly exceed its present peak production capacity.

Mr. Beach formerly was the head of the Beach and Arthur Paper Company at Indianapolis, where he originated the idea of selling paperware items in matched sets. About three years ago he came to Kalamazoo, formed Beach Products, Inc., and was incorporated under the Michigan statute.

Incorporators of the concern include: Captain E. V. Rickenbacker, famous World War flier and president of Eastern Air Lines; L. D. Tompkins, vice president of U. S. Rubber Company; C. R. Feldmann, president of International Machine Tool Corporation; all of New York City; W. J. Hamlin, president of Universal Paper Products Company, Chicago; W. A. Atkins, vice president of E. C. Atkins Company, machine and saw manufacturers; Samuel B. Sutphin, president of the Beveridge Paper Company; Herman Krannert, president of the Container Corporation; R. F. Sparrow, vice president of P. R. Mallory and Company; J. E. Bingham, attorney, all of Indianapolis; Arnold O. Braun, of Washington, D. C. also associated with P. R. Mallory & Co.; R. E. Rutledge, president of Sutherland Paper Company; and P. C. Schram, real estate operator, both of Kalamazoo.

In commenting upon postwar plans, Mr. Beach said he was happy to have the problem of a suitable location taken care of at this time, so that the energies of the management could be devoted to the expansion program that has been planned for the future. Plans have already been laid for new machinery and equipment, which will be installed as soon as the war is over.

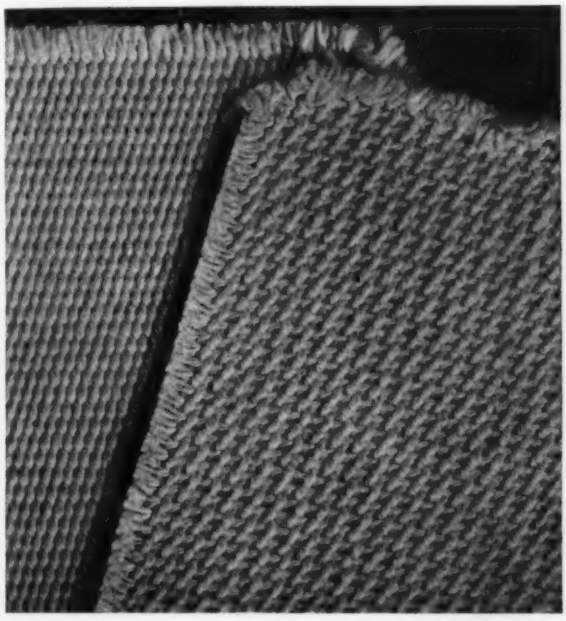
Wm. R. Moore Made Vice President

William R. Moore has been made a vice president of Norton Company, Worcester, Mass. He will be in charge of national accounts, handling ore and grain sales to grinding wheels and abrasive paper and cloth manufacturers. He will also be in charge of sales of refractories, boron carbide and pulpstones.

Mr. Moore, a native of Pennsylvania, came to Worcester following his graduation from Pennsylvania State sales training course, he was assigned to the sales engineering department and later was advanced to assistant sales engineer, sales engineer, assistant sales manager of the abrasive division, director of market research, sales manager and in 1939 he became general sales manager, abrasive division.

He has long been identified with the activities of the Grinding Wheel Manufacturers Association and is a director of the Abrasive Grain Association.

BRANDON
DRYER
FELTS



Manufactured from the raw cotton to the finished felt

BRANDON EXTRA

TRI-UMPH all cotton, 3 ply 53 oz., widths up to 250".

ZEPHYR all cotton, 3 ply 45 oz., widths up to 196".

ZEPHYR cotton-asbestos 3 ply Face 50% asbestos, back open construction for high porosity. Widths up to 166".

HINDLE S/54 all cotton special weave. Extra heavy duty Preshrunk, high porosity, widths up to 170".

SCAPA-HALL S/46 and S/46A. Available after VICTORY.

Sole Sales Agents

WOODWARD, BALDWIN & CO.

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Baltimore, 1, Md.

Representatives:

J. S. Harrington, Watertown, N. Y.
C. B. Smith, Kalamazoo, Mich.
Christian Co., Richmond, Va.
D. H. White, Standard Supply Co., New Orleans
Frank P. Wilder, Portland, Ore.

SOLVAY*

...KEYED TO TODAY AND TOMORROW

Official U. S. Navy Photo

Today ... Solvay Alkalies are helping in the production of rubber life rafts, parachutes, medical kits and special food containers. These new devices are keeping casualties down, enabling fighting men to live and fly again! As new fighting fronts open, Solvay will continue to devote its facilities to the increasing needs of the armed forces!

Tomorrow ... Solvay Alkalies, backed by over 60 years of experience and continuous research, will make their special contribution to the great new discoveries of medical science—safeguarding the health of a nation and its workers—and dedicated to the further advancement of industry! Look to Solvay for the highest quality alkalies!

SOLVAY

The Solvay Process Company employs salt, limestone and ammonia to make Soda Ash, from which basic material Caustic Soda and other alkalies are derived.

SODA ASH
AMMONIUM BICARBONATE
AMMONIUM CHLORIDE
PARA-DICHLOROBENZENE
CAUSTIC POTASH

CHLORINE

CAUSTIC SODA
POTASSIUM CARBONATE
SODIUM NITRITE • SALT
CALCIUM CHLORIDE
MODIFIED SODAS

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Experiment with Reclaimed Newsprint

To prove a point, some copies of the November 10 issue of the *New York Daily News*, as shown in the accompanying illustrations, were printed on papers containing varied proportions of virgin pulp and reclaimed deinked and unde-inked newspapers. A demonstration at Syracuse University based on studies conducted by the *Chicago Tribune* and the *New York Daily News* came as a climax to the long controversy about the possibility and practicability of using old newspapers in the manufacture of newsprint. Cooperating with the *Tribune* and the *News* in this experiment were Professors C. E. Libby and W. O. Hisey and their staff at Syracuse University, managements of the Ontario Paper Company and

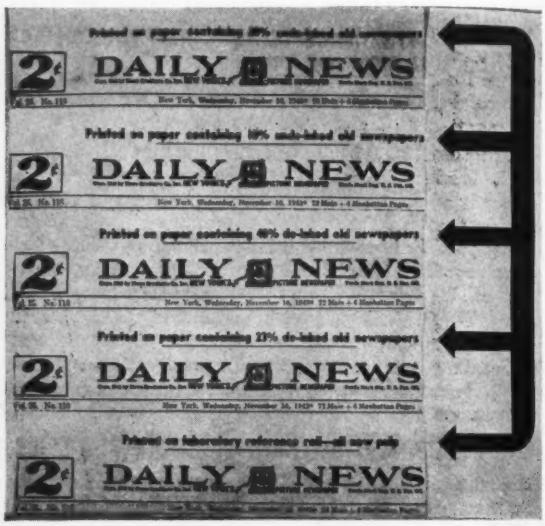


Photo Released by Bulkley, Dunton Pulp Co.

SAMPLES PRINTED ON VIRGIN PULP AND DEINKED STOCK

the International Paper Company, and P. M. Loddengaard of the Bulkley, Dunton Pulp Company. Mr. Loddengaard expressed the view that the demonstration has proved beyond any doubt the practicability of using de-inked papers in the manufacture of newsprint. However, mills in the immediate future will most likely use unde-inked papers because of their use requires no deinking equipment. About 400,000 tons of virgin pulp would be saved and diverted to other uses if all newsprint was made with 10% of unde-inked old newspapers, he said.

War Strapping Methods Revealed

The increasing use of steel strapping for protecting war shipments is interestingly told in Acme Process News No. 14, house publication of Acme Steel Company, 2840 Archer avenue, Chicago, 8, Ill. From carloads of gas bombs to packaged shower stalls for barracks . . . clothing for war refugees to combines and ration packs are included in the new 12 page issue. An unusual application is the use of strapping for making bayonet practice dummies from willow branches.

Another is the "packaging" of six-ton capacity army trucks for overseas shipment and the use of steel bands for making wooden culverts Manufacturers of war products should be on the mailing list for this helpful publication.

Urges Printers to Salvage Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 10—1943—If the country's print shops are to be kept operating, and the necessary printing is to be done, printers, as well as their customers, must cooperate in collecting waste paper, G. G. Otto, director of the WPB Paper Board Division, stated today.

In a special appeal to save waste paper, directed to all commercial printers in the country, of which there are said to be about 42,000, Mr. Otto pointed out that printers not only should conserve their print paper and save all their waste paper, but should explain to their customers the need for saving waste paper and persuade them to cooperate in the local paper drives. Not only man power, but woman and child power are needed now.

In addition to a definite shortage of virgin pulp for making paper, we are now confronted with a shortage of waste paper, which is used in paper making, Mr. Otto said. Our paper making industry uses about 6,000,000 tons of waste paper a year, but this coming year 8,000,000 tons will be needed, some of it to replace the exhausted virgin fibre inventories. As only about 60% of our used paper is recoverable, the rest being either destroyed in use or sent abroad, we must salvage every possible scrap of waste paper, Mr. Otto declared, continuing as follows:

"If commercial printers expect to get sufficient paper to print their customers' orders and keep in business, it behooves them to save, curtail use and get their customers to cooperate with the Local Salvage Committees in the areas where concentrated drives are now in progress. Paper is being gathered at regional centers, usually near plants where it can be sorted, baled and shipped to consuming mills, many of which are awaiting such shipments. Recently a dozen or so paper mills were forced to shut down for several days, due solely to lack of suitable waste paper. A big problem confronting the collections of waste paper is the difficulty of transportation, and for this reason the Salvage Division of the WPB has divided the country into regions and established collection centers as conveniently located as possible to the consuming paper packing plants.

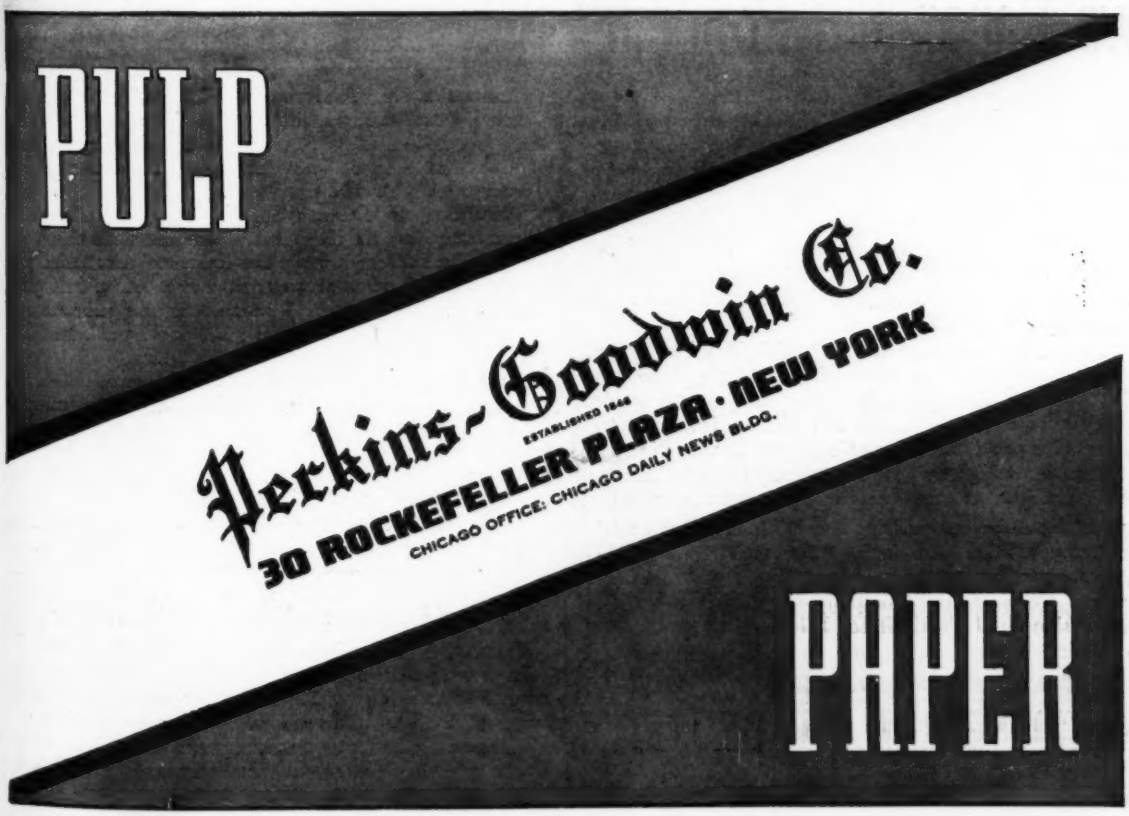
Penn Salt Makes Additions to Staff

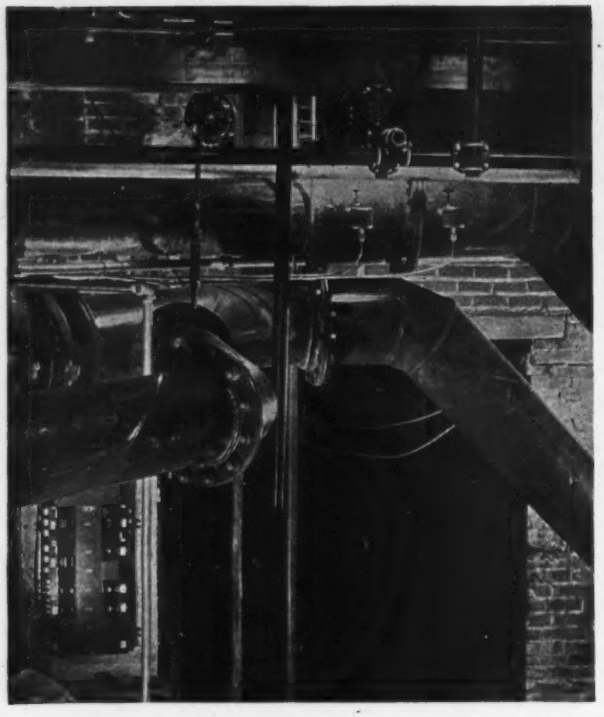
Dr. S. C. Ogburn, Jr., manager of the research and development department, Pennsylvania Salt Manufacturing Company, Philadelphia, announces the following recent additions to the company's research and development department staff:

J. Grant-Mackay, formerly with Jefferson Island Salt Mining Company; Francis E. Murphy, formerly with General Chemical Company; Dr. Herbert E. Ricks, formerly with Gutham Radio Company; W. C. Wolfe, formerly with Petroleum Chemicals, Inc.; and Alfred H. Pope, formerly with General Chemical Defense Corporation.

In addition to the above, Dr. Ogburn states that a number of recent college graduates have been added to his staff including:

William K. Conn, Haverford College; James H. Koob, LaSalle College; Lester S. Verdelli, Ursinus College; Miss Anne M. Buchy, Chestnut Hill College; and Miss Evelyn C. Sission, Indiana University.





This pipe solves

Two Paper Mill Problems

Many mills are "shooting the works" in wartime production. Yet even while equipment is being strained to the breaking point, pulp and paper men are making plans to be ready for post-war business. It poses a double problem and here is help on both counts.

For wartime repair or replacement work, ARMCO Spiral Welded Steel Pipe assures a good, fast, economical job. By including it in your plans for the future, you'll be off to a flying start. Here's why:

Every foot of "Spiral Welded" is prefabricated to fit your layout. The most intricate assemblies slip into place accurately. Assembly time is less because fittings come welded to straight pipe runs. There's less chance for leaks too. Another thing you'll like is the efficiency of ARMCO Pipe. It is smooth inside for high flow capacity—easy to keep clean. On water lines a spun-enamel lining will prevent tuberculation.

ARMCO Pipe sizes range from 6 to 36 inches; wall thicknesses from 7/64 to 1/2-inch. Write us about your specific piping problems. The American Rolling Mill Company, Pipe Sales Division, 2911 Curtis Street, Middletown, Ohio.

ARMCO

ARMCO SPIRAL WELDED PIPE

More Paper for Overseas Editions

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Nov. 17, 1943.—The War Production Board has authorized the Army Service Forces to grant publishers of books and publishers of special overseas editions of magazines the rigght to add to their paper quotas under Orders L-245 and L-244 respenctively, sufficient paper to cover such publications purchased by the Army, the WPB Printing and Publishing Division announced today.

The special delegations to the Army Service Forces, signed by Executive Vice Chairman Charles E. Wilson, limit the amount of additional tonnage of print paper which the Army may authorize to 2,014 tons for book publishers and 1,300 tons for magazine publishers. These amounts of paper, which the Army is authorized to grant to publishers, cover only publications purchased by the Army during 1943, but it is understood that additional grants will be allowed for similar distribution of books and magazines in 1944 also. The quantities will be determined at a later date.

It is required that all special overseas or "Pony" editions of magazines must be supplied exclusively for export to our Armed Forces substantially at cost or less, contain no advertising, conform to Army standards as to size, format and requirements for minimum consumption of paper, and be distributed to Armed Forces personnel without charge.

The requirements for books are the same, except that they may also be supplied to Armed Forces in this country.

Both magazine and book publishers are restricted by the WPB in their use of print paper to 90% of their 1942 tonnage, with additional cuts in 1944 indicated.

Berwin Paper Corp. Starts Action

DANVILLE, N. Y., November 15.—The village of Dansville has been enjoined from boosting the price of water delivered to the Berwin Paper Corporation of that village by an order signed by Supreme Court Justice Lewis A. Gilbert.

According to Truman G. Searle, representing the paper company, his client has a contract with the Village of Dansville, whereby the company purchased all of the village's surplus water at a cent and a half per 1,000 gal. This contract, he said, is the renewal of an old one and was signed in 1938 for a period of 25 years.

Last July, however, the Village of Dansville, Searle said, served notice on his client that at the beginning of the following quarter, it would be billed at the rate of four and a half cents per 1,000 gallons.

Court action has been started to compel the village to deliver water at the contract price. Searle said, and the injunction he said, restrains the village from billing at the new rate pending outcome of the action.

Scrap Burlap and Rope Sell Higher

BOSTON, MASS., November 15, 1943.—On account of a greater demand bagging is higher, with domestic scrap burlap selling at 3.25 to 3.50, against a previous price of 2.25 to 3.50 and soft jute rope moving at 5.25, compared with a previous price of 4.50 to 5.00. There are no ceilings on these commodities. Other paper stock grades are selling at ceiling prices.

New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Dr. Philip D. Adams, director of Research and Control Laboratories, Jergens-Woodbury Company, 2535 Spring Grove avenue, Cincinnati, Ohio, a 1930 graduate of Pennsylvania State College; Ph.D. degree from University of Cincinnati in 1933.

Arnold G. Beaman, chemist, Fox River Paper Corporation, Appleton, Wisconsin. Attended Oshkosh State College and Case School of Applied Science.

N. Wilson Cady, production engineer, United States Gypsum Company, 300 W. Adams Street, Chicago, Ill. Attended University of Missouri and Washington University.

W. Michael Cofnuk, chemist, Calco Chemical Division of the American Cyanamid Company, Bound Brook, N. J., a 1943 graduate of the New York State College of Forestry.

Marco D. Crandall, chemist, Paper Quality Control, International Business Machines Corporation, Endicott, N. Y., a 1935 graduate of Mechanics Institute.

Harry H. Haldeman, research chemist, Fox River Paper Corp., Appleton, Wis., a 1925 graduate of Simpson College.

John F. Helms, Chemist, American Can Company, 11th and St. Charles Road, Maywood, Ill., a 1943 graduate of the University of Wisconsin.

John O. Olsen, Chemist, Fox River Paper Corporation, Appleton, Wis., a 1935 graduate of Stevens Point College.

Clifford G. Reynolds, chief chemist, Anacortes Division, Coos Bay Pulp Corporation, Anacortes, Wash., a 1941 graduate of the University of Washington.

L. S. Sabatke, assistant to general superintendent, Marathon Paper Mills Company, Rothschild, Wis., a 1936 graduate of Iowa State College.

Walter W. Woolf, chemist in charge of laboratory, Kieckhefer Container Corporation, Delair, N. J., a graduate of the International Correspondence School.

D. W. Yost, assistant technical director, the Sorg Paper Company, Middletown, Ohio, a 1936 graduate of Alabama Polytechnic Institute.

Henry G. Boon Appointed by WPB

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Nov. 17, 1943.—The appointment of Henry G. Boon, of Neenah, Wisconsin, as Deputy Director of the Fine Paper Branch of the recently organized WPB Paper Division, was announced today by Rex W. Hovey, Director of the Division.

As Deputy Director of the Fine Paper Branch, Mr. Boon will have supervision of the Newsprint Section, the Groundwood Paper Section, the Book Paper Section and the Writing Paper Section.

Mr. Boon's long experience as general superintendent of. the Kimberly Clark Corporation, of Neenah, Wisconsin, will be of value to the WPB and the paper manufacturers, Mr. Hovey said.

ten-thousandths & tens of thousands

Accuracy combined with volume and speed is America's production formula for Victory. Equipment for war must be measured in ten-thousandths of an inch as well as tens of thousands. Bombs hit their mark because all along the manufacturing front exacting standards have been met. Guns and planes and machines are always ready for action because they were well built. Behind this construction to close tolerances are precision tools and instruments.

Appleton Super-Calender Rolls have had to meet the highest standards, both in materials and workmanship. These standards grow more and more exacting as we take advantage of every technical advancement that improves the quality of our filled rolls. There was no instrument to tell us some of the things we wanted to know in checking and maintaining accuracy in the operation of super-calender rolls. So we made the one shown here. It is representative of the research and development applied to Appleton Super-Calender Rolls so that they will give you the finest finish on your papers together with maximum service.

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630 Fifth Avenue, New York

PAPER TRADE JOURNAL

This Reg. U. S. Pat. Off.

Henry J. Berger

EDITOR

Vol. 117 November 18, 1943 No. 21

COMING EVENTS IN PAPER INDUSTRY

New England Section. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

Delaware Valley Section. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

Lake States Section. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

Kalamazoo Valley Section. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

GOVERNMENT SURPLUSES

The national government has steadily expanded its centralization for years, primarily because of public support for it. This movement has been partcularly accelerated during the last decade. During the present wear the President has been granted, and in some degree has usurped powers until the federal government now compels strict control of the national economy. Many examples of this centralization of power not associated with the war effort are generally considered as a liberal, progressive development of a national government policy that follows the co-operative trend between the states and the national government. This is notable in education, health and in some other social advancements, in the regulation of interstate trade, transportation and in the enforcement of criminal laws. Other activities of the national government have proven of questionable merit and some more properly listed as "boondoggling" schemes are of flimsy substance—just political legerdemain and so a sheer waste of money. Many business men think this experimenting with public funds and property should be eliminated; that practical business practices should be solely utilized to effect a conversion from war to peace after victory is won.

A direct result of the current global conflict is the unprecedented growth of bureaucratic regulation over business and individuals, although some kind of regulation is widely regarded as essential for the successful conduct of the war. As a result of the war economy set up and by its administration, Senator Tydings has stated that the national government has acquired approximately 47,000 square miles of land, nearly equal to the area of the New England states. At the end of the war the national government will possess property, including all kinds of surplus goods and materials, estimated at about $60 billion. In addition, there will be about $75 billion of outstanding war contracts. The manner in which the liquidation of government ownership is made will have a profound effect upon the prosperity of the United States for years to come. This aspect of the national economy was presented in a resolution of the National War Council, adopted at the meeting held in New York last April, in part as follows: "Neither war agencies nor any other public agencies should operate war-created and federally-owned facilities in competition with private enterprise. As soon as possible after cessation of hostilities, all such facilities having peace-time economic use should be disposed of to tax-paying ownership on reasonable terms. Until there is transfer there should be just compensation to state and local taxing authorities for services rendered to the properties during the transition period. War agencies should in no case be utilized for non-war purposes, or to enhance and expand operations of agencies with no war responsibilites."

In commenting on the "Effects of Disposal of Surplus Property," Senator Millard E. Tydings, of Maryland, before the National War Council said in his address that, (1) "Those things which the government has acquired during the war, which the government still needs, such as some critical materials, munitions, and supplies for our armed forces, office space for regular peace-time operations, and the like, can be removed from the list of materials remaining to be disposed of. (2) Those things which the government now owns but which can be sold back to private concerns without depressing private enterprise, would be hotels, office buildings, some aircraft, shipways, synthetic rubber plants, war chemical establishments, some machine tools and machinery and the like. (3) There will be quantities of materials which cannot be disposed of by the government except in direct competition with private business which will be producing in whole or in part the same thing. Here is where good judgment must prevail. There should be representatives on this government liquidating board of concerns that are producing the things the government is selling so as to feed these things back into the market with as litle hardship to private business as is humanly possible. . . . Everything the government sells will, to some extent, depress employment. Business, the working man and the farmer will all be affected, favorably or adversely, depending on the wisdom with which this program is carried out. (4) By national law the administration then in power should declare that the proceeds and receipts from the disposal of all properties owned by the government should be applied to reducing our national debt and for no other purpose whatsoever. If this is done not only can the national debt be reduced in the postwar years many, many billions of dollars, but by this reduction our reduced national income, certain to follow the close of the war, will offer the best prospect of keeping the finances of the national government in a sound, healthy condition, a

treatment which would not be out of place, I assure you."

In stating the fifth point of his recommendation, Senator Tydings said: "And finally, of transcending importance, we should provide either by constitutional amendment or otherwise, that in times of peace the Congress of the United States cannot spend more money than it takes in in any one year without providing for increased taxes to completely wipe out such annual deficit within a period of not more than twenty years from the time the deficit is created."

Cold-Prevention Program Started

People who suffer from colds, in the belief that they are unavoidable, will find new hope in an industrial cold-prevention program which has been started for the employees of Sherman Paper Products Corporation of Newton Upper Falls, manufacturer of packaging materials for war use and for the food industry. It is anticipated that employees will save 50-75% of the time formerly lost through colds. This high goal has been established upon the strength of large-scale tests of a new cold-preventive method.

Employees who participate in Sherman's free cold prevention program, will receive one oral cold-vaccine tablet each day for the first eight days, after which they will receive two tablets a week. This will continue throughout the winter.

Such a program, it was reported, could produce startling results if adopted by all manufacturers, for colds are responsible for more lost time than all other sicknesses combined. It has been estimated that a national cold-prevention program could provide the equivalent of nearly 200,000 additional workers!

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1943		Corresponding Weeks—1942	
October 2	92.7	October 3	87.8
October 9	91.0	October 10	88.0
October 16	90.5	October 17	89.8
October 23	88.5	October 24	91.6
October 30	89.5	October 31	92.9
November 6	90.6	November 7	88.5

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1942	104.5	103.9	102.9	100.4	95.3	87.4	75.8
1943	87.2	88.9	89.5	88.7	91.4	86.5	84.4

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1942	80.8	82.8	90.6	86.9	80.1	90.4
1943	91.1	88.3	90.2			

COMPARATIVE YEARLY SUMMARIES

	1936	1937	1938	1939	1940	1941	1942	1943
Year to Date	79.3	84.2	70.9	81.6	86.1	96.4	91.9	88.7
Year Average	80.4	79.8	71.5	83.4	85.6	97.4	90.4	

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1937	83	89	89	91	88	80	69	77	72	70	57	47	75
1938	56	63	63	60	60	59	59	60	70	73	67	61	64
1939	65	73	76	74	69	73	68	77	82	91	88	77	77
1940	78	75	74	76	82	85	77	79	78	85	82	77	78
1941	81	88	89	89	91	94	92	98	95	99	98	90	92
1942	102	101	101	95	82	72	68	75	76	81	82	77	84
1943	86	88	94	94	96	94	89	96	94	94			

Week ending Oct. 2, 1943—97
Week ending Oct. 9, 1943—94
Week ending Oct. 16, 1943—95
Week ending Oct. 23, 1943—94
Week ending Oct. 30, 1943—94
Week ending Nov. 6, 1943—93

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

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MANY successful paper mill operators control slime on the wet end of the paper machine by adding "Lignasan" *at the beaters!*

"Lignasan" is one of the most powerful fungicides and bactericides known. Even in low concentration, from 3 to 5 ounces per ton of fiber, dry basis, "Lignasan" is usually sufficient to control slime throughout the "wet" paper-making processes.

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Stored laps are protected for many months by the use of only 4 to 8 ounces of "Lignasan" per ton of fiber, dry basis. Slush pulp, too, is protected against spoilage by mixing from 4 to 6 ounces of "Lignasan" per ton of fiber, dry basis, with the stock.

There are *five* ways "Lignasan" can save you money, time and headaches: (1) Helps you control slime. (2) Helps you in the preservation of pulp. (3) Prevents clogging of alum lines by biological organisms. (4) Helps you conserve manpower and materials. (5) Helps you keep your mills operating at *top* efficiency.

Get all the facts now on how "Lignasan" can help increase daily production and cut costs in *your* mill. Write to your nearest Branch Office or to E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington, Delaware.

Keep on Buying War Bonds

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Bactericide and Fungicide

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Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

Marking of Army Shipments*

By Capt. George Wallerschein[1]

Abstract

All shipments to the Armed forces overseas are marked in code which, in addition to the destination, provides a ready identification of the contents in the container. Because of the importance of accuracy, it is necessary to conform to certain regulations. The procedure and problems of marking are discussed.

The problem of proper marking is intensified through the use of codes. Today, for reasons of security, all army shipments move to their overseas destinations by means of a prearranged system of symbols. These symbols are meaningless to most handlers of freight, but they are full of meaning to the personnel of the Transportation Corps. The chances are nine out of ten that were clear destinations used, a misspelled geographical name would still land the package at the right place; whereas, a single transposition of a number, or a letter, in a coded address may land the package many miles from its intended destination.

Overseas Shipments

It appears then that of all the markings on the container the overseas destination is most important and should receive the prominence it deserves, and yet, the overseas reports, time and time again, stress the fact that packages arrive with coded destinations that are either almost invisible, buried among other marks, or partially obliterated.

Another complaint is that the box is so full of all sorts of markings that there just isn't room for any additional markings. The Army shipment is not just a one-time shipment: it is rather a series of transshipments from the supplier to the depot, then possibly the consolidating station, then to the port, if the port is loaded it may be sent to temporary storage at a holding and reconsignment point, and finally back to the port. On arrival overseas, the shipment may go first into a depot, then be moved to a dump closer to the front line, and finally marked for delivery to a specific unit. Again, because of constantly shifting operations, a package originally destined for United Kingdom may have to be transshipped to North Africa, then Sicily and so on. Consequently blank space is very necessary. While overseas destination is by far the most important destination on the box, it is not the only necessary item.

Loading of ships and inland carriers is planned on basis of weight and cube. Therefore, it is essential that each and every box show cube and weight. From the supply angle it is also essential that every box carry the description of its contents. The arrival and despatch of shipments are tallied on the basis of the box count and the box content and, at the overseas base, there is no time to open boxes to determine their contents while the supporting documents may never arrive.

Finally, for the purpose of preliminary sorting and quick content identification, each technical service has a special color assigned to it, which is placed in a specific position on a container. This is particularly important at the overseas bases where natives cannot read, and the entire ship load must come off and be despatched within a few hours. Upon unloading, piles of materiel are made up of like color and then hauled to their respective depots.

To assure permanency, the important marks must be stenciled or printed. To assure visibility, they must be large and legible. To assure their immediate location, they are confined to one or two surfaces of the container, with the weight, cube and content marked in the upper two-thirds, and the overseas address, placed preferably on a slant, in the lower third.

Domestic Procedure

All other marks, with the exception of caution marks, are necessary in the United States only. Their utility is therefore limited. In order not to interfere with the permanent marks, they are placed upon another surface of the container and limited in area they are permitted to occupy. The consignment marks —that is, the domestic shipping address (from ZYZ Co. to such and such depot, or from XYZ Co. to such and such port of embarkation) are limited to 28 sq. in. The contract data which is the information required by the Procurement officer, is limited to 42 sq. in. The contract data may include such information as contractor's name, procurement agency, contract number, date inspected and inspector's name, lot number, item number, etc.

One important don't is "advertising matter." In peace time no objection has been raised to trade names, slogans, appearing on all sides of the container. Today, every inch of space is precious and must be preserved for subsequent application of military markings. Any brand identification therefore must be defi-

* Presented at the Army and Navy Requirements Conference of the Technical Association of the Pulp and Paper Industry, Palmer House, Chicago, Ill., Sept. 21-24, 1943.

[1] Packing and Marking Branch, Port and Field Agencies Division, Office of the Chief of Transportation, Washington, D. C.

nitely confined to the space allotted to the contract data.

In peace time when army depots in this country had the time, deviations from the established marking practice could always be corrected. Today, time is the important element and no sooner do the supplies reach the depot than they must be reshipped. The tendency is to have the supplier prepare the shipment in such a manner that no additional processing, repacking, or remarking is necessary.

The marking function of the depot is then reduced to the addition of the overseas address in the lower third of the surface reserved for permanent markings and the addition of a shipping label on the domestic side of the container.

There is absolutely no reason for confused marking pattern on the containers shipped by manufacturers. Printed specifications for marking by contractors, based upon the principles outlined, are issued by each technical service. If the contractor has not received these, he should ask for them instead of injecting his own ideas. On the other hand, if a subcontractor enters into the picture, who in turn may make independent shipments to Army installations, it is the duty of the prime contractor to furnish another copy of marking specifications to the subcontractor.

Problems

In view of the attempt to limit marking necessary in the Zone of Interior to small areas of 28 square inches for consignment marks and 42 square inches for contract data: the practical method for entering this information is by the use of labels. In this connection there is a definite need for gummed labels which will adhere to various surfaces and will not be washed off when exposed to elements or easily removed through rough handling in transit.

Another problem is that of protection to be given packing lists. When contents of containers consist of mixed commodities it is necessary to limit the stenciled description on the containers and rely upon the packing list to enumerate contents in detail. Since documents and physical shipments do not always arrive overseas together, each box must have the necessary information. The problem is to provide an absolutely waterproof envelope for the packing list, to attach this envelope to the case and to reinforce it with a cover plate that will not come off.

The last problem is that of applying the service color. The color is one of the important markings on containers but it is also one which causes manufacturers and depots considerable difficulty; paints do not dry fast enough and where the conveyor system is not used the difficulty of applying color to boxes is multiplied.

Discusses Groundwood Bleaching

Groundwood bleaching was the subject of Lyman Beeman's talk at a meeting of the Hudson Valley group of the Empire State Section of TAPPI and the American Pulp and Paper Superintendents Association at the Queensbury Hotel in Glens Falls on Friday evening, November 5.

Mr. Beeman described briefly the development of groundwood pulp including the use of artificial stones and modern screens which have been important forward steps in improving the quality of the pulp. The most recent development has been the successful bleaching of groundwood pulp.

The bleaching process developed by DuPont is being used commercially in at least three mills in the country at this time. This process consists of subjecting freshly ground pulp to an oxidizing reaction with sodium peroxide at controlled temperature and consistency conditions. This is followed by a reducing reaction with any one of a number of acid solutions, sulphite cooking acid being the most used. The exact nature of the chemical reactions which take place is not known, but there is no loss of fiber and subsequent washing is not required.

The bleached pulp has all of the qualities of regular groundwood and more of its own. Opacity, brightness and printability are the most valuable of these. It has been found that paper containing bleached groundwood has an excellent printing surface. More and more uses are being made of this paper for high quality printing. Opacity is one of the well known characteristics of groundwood pulp and bleaching does not destroy any of this quality. Brightness pick up in bleaching amounts to about ten points which puts groundwood fairly close to bleached sulphite at the present ceiling brightness.

Mr. Beeman further stated that bleached groundwood papers do not show as marked fading as the unbleached papers. This may open up other fields of use where groundwood paper has failed in the past because of its tendency to yellow on aging.

Strength, freeness and machine operation of the bleached pulp is similar to that of the unbleached, as there is no mechanical action on the pulp except whatever pumping is required. There were several questions and discussions on some of the technical aspects and physical characteristics of this pulp.

A motion picture "The Navy Carries On" was shown through the courtesy of Sandy Hill Iron and Brass Works, winner of the Navy E and star. This was an interesting portrayal of the development of U. S. Navy Aviation.

Vance Edwardes, National vice-president of TAPPI, was present and commended the section on the success of their meetings. He stated that several other sections throughout the country were holding similar meetings and the policy was recommended by TAPPI.

The meeting and program was arranged by Foster Doane who has been appointed chairman of the group. Meetings will be held regularly on the first Friday of each month. Mr. Doane announced that "Deinking" would be the subject of the December meeting.

The following were present: W. E. Beazley, Lyman Beeman, O. B. Beyer, P. D. Bradley, A. B. Copping, H. J. Cronin, W. F. Curtis, P. E. Daley, F. L. Darrell, F. P. Doane, R. W. Doe, C. A. Duell, V. P. Edwardes, J. Foote, S. L. Foster, D. Frasier, H. W. Freeman, L. G. Gallup, T. A. Gaston Guay, Russell George, M. Gormley, G. N. Hoover, C. L. Horton, E. Hutchins, J. W. Joslyn, J. W. Juckett, Wm. Leeson, F. J. McCourt, O. J. Mills, A. L. Mosher, R. D. Moynihan, H. Newell, Floyd Palmer, F. E. Pasco, G. H. Pountain, James E. Reardon, John H. Rich, A. Rowlands, B. Russel, C. V. Simmons, M. G. Tibbetts, D. B. Westcott, G. N. Wolfe, and R. I. Wynne-Roberts.

Amos Dotterer Resigns

Amos Dotterer, general superintendent of the Ruberoid Company's plant at Gloucester City, New Jersey, has recently resigned his position.

Effect of Pulp Bond Density on Engine Sizing*

By William S. Wilson[1] and Harold E. Duston[2]

Abstract

Engine sizing is used primarily to reduce the capillary forces which suck liquid into a finished sheet. This reduction is accomplished by attaching small rosin particles to the fibers comprising the capillary walls thereby raising their contact angle. Pulp and rosin are both cation exchangers and must be held together by a bond to accomplish this. Mathematical consideration and experimental evidence indicate that this bond strongly resembles trivalent Al ions common to both types of particles. Further experimental evidence and theoretical considerations lead to the conclusion that the strength of this bond determines the degree to which engine sizing may be accomplished. Because fibers are not homogeneous and each has its personality, there are numerous points on pulp fibers where the bond density exceeds the bond density of the ordinary rosin particles. These unused pulp bonds are wasted unless a rosin particle of high bond density is attached to them. The bond density of rosin particles can be increased chemically and the results of such an increase through the synthesis and use of the new size are reported from both the theoretical and practical angles. From a practical standpoint this new size (Mersize) appears capable of not only increasing engine sizing but also of reducing the amount of size used and the cost.

The authors' object is to point out that experimental and mathematical comparison of the ink penetration and Cobb sizing tests indicates that all sizing tests are the resultant of at least four variables. Of these four variables, namely: contact angle, pore diameter, fiber swelling and work done, only one (contact angle) can be seriously affected by engine sizing. The other variables must be changed by other means. A further object is to outline the experiments and reasoning which led to the development of a new type of size and to show what this size can do on a random selection of pulp.

Size Tests

All the sizing tests reported herein were made on 2.5 gram hand sheets by the standard ink penetration test. The sheets were made in a Noble and Wood laboratory machine. Each point is the average of 16 determinations which gives a statistical accuracy of 3%. To obtain the comparability of sizing tests between different observers and different techniques, a series of sheets was made up, tested, and then sent to two paper companies, each of which used a different variation of the ink penetration test. There was no numerical agreement, in that results varied by as much as ten thousand per cent, but relative agreement was almost perfect.

This laboratory's experience with the Cobb test is practically nil, because of the difficulty of making enough hand sheets of the thickness required in determining slack sizing. The beater is small, and it is preferred not to have more than one beater involved in any given series.

In the Cobb test the capillary force is aided by gravity to the extent of the head used. In the ink penetration test the capillary force is working against gravity to the extent of the sheet thickness. Naturally the question arises as to how much these heads affect the accuracy of the tests. The system is too complicated for calculation, and experimental evidence is doubtful until all variables are covered. The following, therefore, can be considered merely as indicative.

A series of sheets was made up in which the rosin only was varied. The variation was sufficient to reach the peak of the sizing curve and half way down the other side. The 0.5 cm. Cobb test was, within the limits enforced by different units, a mirror image of the ink penetration test. The 2 inch Cobb tests bore no resemblance to either of the other two tests, but did resemble a 6 inch Cobb test. In both the high head Cobb tests (Cobb does not recommend high heads) there was no decrease in sizing with too high rosin dosage such as was very marked on the 0.5 cm. Cobb and the ink penetration test. The excessive amount of rosin which destroyed the capillary forces according to the 0.5 cm. Cobb and the ink penetration test was beneficiently plugging the capillaries according to the 2 inch Cobb test.

Another series was prepared containing various amounts of clay. According to the ink penetration test, sizing fell off as the clay increased but according to the 2 inch Cobb test, sizing improved as clay addition increased. The clay was ruining the contact angle according to the ink penetration test, but plugging the holes to improve the 2 inch Cobb test.

Two sets of sheets were prepared from two pulps and were tested. The ink penetration test indicated that pulp A was easier to size than B but according to the 2 inch Cobb test the reverse was true. Apparently A had larger pores but could build up a contact angle high enough to overcome this disadvantage.

All this work was done on very hard sized sheets. It appears that on such sheets, a 2 inch Cobb test is not measuring sizing, if sizing is defined as an attempt to increase the contact angle of the fibers, it is measuring the porosity of the sheet. If a 2 inch head is obviously too high it casts some aspersions on the 0.5 cm. head when used on very hard sized sheets.

Mathematics of Size Tests

Assuming that the effective pore diameter is somewhere between 1 and 30 microns, there is a capillary pressure of from 3000 to 100 centimeters of water pressure at zero contact angle. If these pressures are reduced to a point where a few centimeters of water head seriously affect their accurate measure-

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ment, then the contact angle of the fibers must be very high, and engine sizing is an extremely efficient process.

Sutermeister's book presents a formula attributed to Cobb. For single capillaries it is theoretically correct; furthermore, within limits it seems to work on paper. Fig. 1 shows two arrangements of this formula and a list identifying the symbols used. The symbols differ from Cobb's because the mathematics were checked using other symbols. The depth of penetration l is indicative of the grams of water picked up in the Cobb test. Time t is indicative of the time required for the ink penetration test.

From the two arrangements t is proportional to $\frac{1}{\cos\Theta}$ and l is proportional to the $\sqrt{\cos\Theta}$ so these values are plotted against Θ. When Θ is small (slack sizing) neither test has any degree of accuracy. There is no great variation in either t or l over a long range of values of Θ. As Θ increases (hard sizing), the sensitivity increases for both tests, but the increase is greater for the ink penetration test than for the Cobb test. The amount absorbed in a Cobb test is proportional to $\sqrt{t}$, so to double the amount absorbed time must be quadrupled. In the one experiment tried this was true up to eight minutes. After this a marked progressive deceleration in pick-up was noted, possibly due to fiber swelling and a consequent increased resistance to flow.

According to the formula, the ink penetration test should increase as the square of the sheet thickness. Tests show this to be true for slack and moderate sizing. On hard sizing, however, some other factor begins to interfere, and sizing increases more nearly as the cube of sheet thickness. Again this may be fiber swelling. Possibly sizing is so efficient that the liquid is going through the fibers as well as around them. Whatever the explanation, this points to the necessity for great care, as regards sheet thickness, when comparison are made. If sizing differences are too small on thin sheets, the difference can be greatly magnified by making the comparisons on thicker sheets.

Another evident difference in the two tests is that t is proportional to the reciprocal of r while l is proportional to the square root of r. Thus if r is increased from 5 to 20 microns, the ink penetration test is decreased to one-quarter of its previous value, while the Cobb test is only doubled. The ink penetration test, then, is more sensitive than the Cobb test both to pore diameter and contact angle. This is introduced to permit a better assessment of the data presented and is not criticism of the Cobb test.

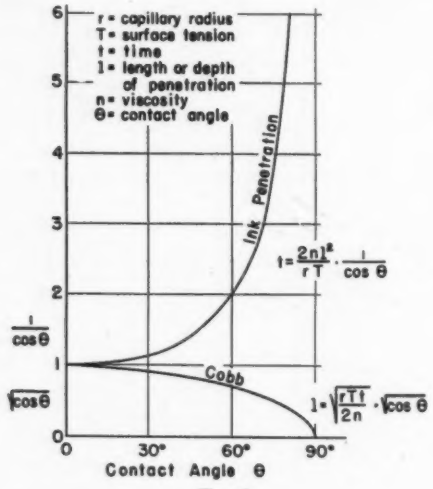


FIG. 1

There are an infinite number of combinations of pore diameter and contact angle which will give identical results on either test. Neither test, then, indicates whether water resistance can best be improved by plugging the holes or increasing the contact angle. A densometer gives no indication of how much of the air is speeding through large holes and how much is crawling through small holes. The Poiseuille formula $\left(V=\frac{\pi Pr^4}{8\,ln}\right)$ from which Cobb's formula is derived, shows that the volume of air delivered per second is proportional to the fourth power of the capillary radius. In other words, a capillary twice the size delivers sixteen times the volume of air.

There are many other tests, called sizing tests, which have a doubtful relationship to engine sizing, if it is defined as an effort to increase the contact angle of the fibers.

Function of Alum

We concur with the idea that the most rapid path of travel of a liquid into a sheet is through the capillaries between the fibers and this work is based on the assumption that engine sizing is used primarily to reduce the capillary forces which suck liquid into the finished sheet. A liquid rises in a capillary because it is pulled up by the surface tension of the liquid film which is attached to the capillary wall. Sizing consists of attaching small rosin particles to the fibers which reduces the vertical component of the surface tension force and therefore the tendency to draw liquid into the capillaries formed by the fiber walls, because the rosin has a higher contact angle than cellulose.

The necessity for a firm bond between rosin and fiber has, to say the least, been underemphasized. If the pull of surface tension is greater than the force holding the rosin particle to the capillary wall, the rosin particle will be pulled off and will expose the lower contact angle cellulose to the liquid film.

Both pulp and rosin are cation exchangers capable of exchanging surface mono- or divalent cations for trivalent aluminum ions. Any given aluminum ion is not necessarily concerned solely with one rosin particle or one pulp fiber as it might easily become simultaneously involved with both types of particle, thereby binding them together.

We do not pretend to understand the mechanism of this binding. The relative sizes of aluminum ions and rosin particles makes it difficult to believe that direct aluminum bonds are the only means of binding. On the other hand, the theory of charge reversal does not seem specific enough to account for the following. If the probability theory is applied to various ratios of pulp and rosin charges, taken in groups of three, as would be the case if they were tied together with trivalent ions, all of the supposed vagaries of paper sizing which are not connected with a variation in raw materials can be predicted. Admittedly in principle, the same predictions could be made if quadrivalent or divalent ions were assumed. Divalent ions would be equivalent to electrostatic forces. Dif-

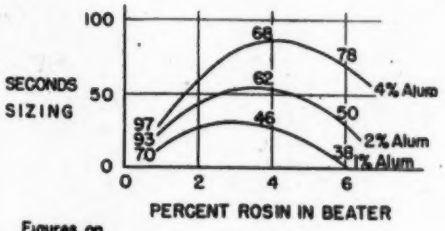
ferentiation between di- and trivalent ions depends upon numerical values. Our data do not fit the divalent ion probabilities but are fairly satisfactory for the trivalent ones. There are divalent ions which will attach rosin to pulp, but not strongly enough to obtain any appreciable degree of sizing. Many tri- and quadrivalent ions will give good sizing and while each of these ions has its own specific resistance to OH ions, aluminum is the best. None of these other elements are efficient in a satisfactory pH range.

Because there are so many variables involved in engine sizing, it is impossible to make irreproachable comparisons even when the comparisons merely consist of slight changes in relative amounts of the same raw materials. When alum is used, the safest comparisons are made when the pH is adjusted to 4.0, just before adding to the proportionator of the Noble and Woods Laboratory machine. All results shown are adjusted to 4.0 pH, unless other conditions are definitely specified.

Figure 2 shows seconds sizing plotted against per cent rosin used for three different amounts of alum. The same pulp and rosin size were used throughout. The figures superimposed on the curves are the percentage rosin retentions for the points indicated. Even a cursory examination of the plot shows that any given degree of sizing can be obtained under an infinite number of conditions. Furthermore, there is an optimum amount of rosin for each amount of alum.

These percentage rosin retentions are rather confusing, so in addition to plotting seconds sizing against the percent rosin in the beater, they are plotted against the actual amount of rosin retained in the paper. With 1% alum, sizing rises up to 1.6% rosin, then falls off to practically zero at 2.4% rosin. With 4% alum, sizing rises up to 2.5% rosin, and then falls off as the amount of rosin increases.

For any given amount of rosin in the paper, an increase in alum increases sizing. Consequently if sizing is increased without an increase in rosin, then the alum plays a very important part in sizing. Since alum is to be considered a binder, then the tightness of bond must be at least as important as the amount of rosin.



Figures on curves show percent rosin retention

Fig. 1

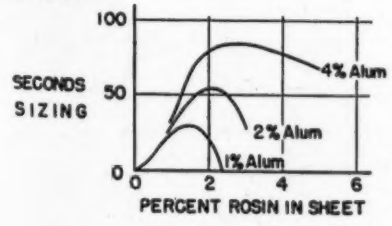


Fig. 2

FIG. 2

The cation exchange properties of rosin and pulp vary in several important characteristics. Rosin is saturated with Al ions at a very low driving force or aluminum ion concentration. Pulp requires a comparatively high driving force to attain saturation. These facts have been demonstrated by direct analysis, although the first indications were obtained by straight mathematical considerations. This is one answer to the query which appears in the literature several times, as to why greater than stoichiometric amounts of alum are required in paper sizing.

Aluminum ions are subject to hydrolysis, which explains why sizing is difficult at high temperatures. The higher the pH the greater the difficulty. This same hydrolysis is probably responsible for most of the H ions found in determining the so-called pH of a paper. It is doubted if a combined Al ion or a few protons resulting from its hydrolysis will affect the durability of paper for it is more probable that the hydrogen ions require some SO_4 ions if real destruction is to occur.

Bond Density

The next important difference between pulp and rosin has not been proved although microscopic observation, common sense, and experimental evidence confirms our belief. Rosin is anything but a pure compound, but when it is dispersed all surfaces should be identical, provided they come from the same rosin, i.e. for any given rosin size, the bond density, or the number of bonds per unit area, is reasonably constant. Pulp is not a dispersed homogeneous melt. Each fiber has had its own personal life history and therefore characteristics of its own. The bond density on any given fiber is anything but uniform. There are other differences in the colloidal properties of pulp and rosin, but they are not of immediate concern.

If pulp fibers have numerous points where the bond density exceeds the bond density of the rosin particles, an opportunity is wasted if a rosin particle is merely stuck on those points. It would be more advisable to use these points for a rosin particle of high bond density and have low bond density rosin particles for the parts of the pulp fiber which have a lower bond density.

A beater puts enough energy into the furnish to knock loosely fastened rosin particles off of pulp. The more tightly fastened particles are less likely to be knocked off, so the eventual equilibrium should at least approximate the more desirable condition.

Most cation exchangers are fundamentally acidic in nature, the acid hydrogen being the ultimate active principle. This hydrogen can be exchanged for some other cation, which in turn can be exchanged for still other cations. Equilibrium is generally attained rapidly, and is solely dependant upon the activity and concentration of the ions in the system in contact with the exchanger.

There are several materials which can be interreacted to give a molecule having two to three times the number of active hydrogen ions existing in rosin. Presumably the more active hydrogens there are in a molecule, the greater are the number, per unit area, on the surface of a particle built from these molecules. A poly-carboxylic resin (Mersize) is such a compound.

As confirmation of the above idea, it is interesting to note such a reaction can also take place with anthracene, which is a hydrocarbon containing no

carboxyl groups. Anthracene can be dispersed by rapid dilution of a dioxane solution but will not size paper. The compound of anthracene with two carboxyl groups is an excellent sizing material. Several other hydrocarbons acted in the same manner.

Poly-carboxylic resin particles are much smaller than rosin particles, and therefore have a correspondingly greater covering power. Depending upon the results desired, this may be either an advantage or a disadvantage. Sizing is a question of increasing the average contact angle of the capillaries and more rosin surface per unit of rosin can be obtained if fine particles are used. This means many more particles and a point is reached where there are more rosin particles than there are pulp bond clusters to hold them. Therefore, sizing will begin to fall off at a comparatively low rosin dosage.

If the pulp bond clusters are limited in number, more rosin surface can be obtained with a given number of large rosin particles than with the same number of small particles. Thus, with large particles a higher maximum sizing can be obtained, but only with excessive amounts of rosin.

That this reasoning is correct is shown on Fig. 3, which is seconds sizing plotted against per cent rosin for two particle sizes of rosin and various mixtures of each. All results are at 4 pH and constant alum. The 100 L curve is for 100% large particles. The 100 S curve is for 100% small particles. The other curves are appropriately marked for the various mixtures. If 100 seconds' sizing is required 8% of the large particle rosin must be used. If 60 seconds is sufficient, it would be inadvisable to use 4.5% of the large particles when 2.5% of the small particles would do as well. Two per cent of the 20L-80S mixture would be the best size to use.

Sizing Data

This poly-carboxylic resin is altogether too expensive to be used as large particles, but Fig. 4 indicates its possibilities in a comparison of an efficient rosin size with both large and small particles of the new size. One per cent alum is used throughout and although it is an absurdly low amount of alum to use with these amounts of rosin, it was chosen deliberately to make a point. The small particle size product does not show up advantageously when compared with the rosin. The new agent has a surface which has several times the alum bonding capacity of a rosin surface; it also has more surface, hence it has robbed the pulp of the necessary aluminum driving force and sizing is low.

Seconds sizing plotted against per cent alum for 2% of the fine size, 3% coarse size complex resins,

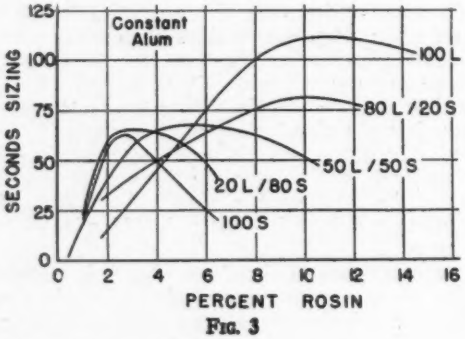


Fig. 3

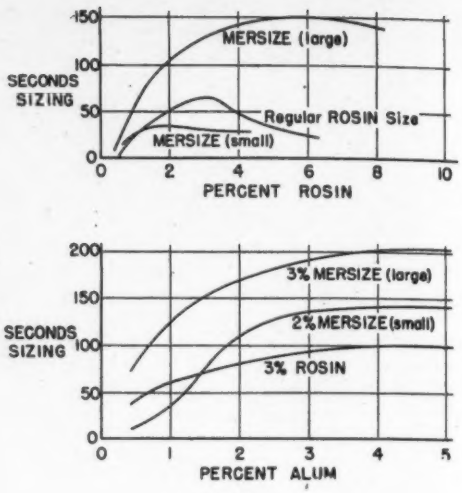


Fig. 4

and 3% ordinary rosin is also contained in Fig. 3. Obviously at sensible alum dosages the new product is very much better than rosin. Sensible alum dosages are a question of ratio of alum to rosin.

Although there is a very simple method of estimating the relative number of hooks on various pulps, there is no means of determining the uniformity of distribution. A poly-carboxylic resin is advantageous in proportion to non-uniformity of distribution, consequently, the only method to determine its usefulness on a given pulp is by experimentation.

Fig. 5 shows sizing curves for two pulps which represent maximum variation in the degree of sizing obtainable on different pulps. The actual increase in sizing with the new size is quite large on the soda pulp and quite small on the rag pulp, but on a percentage increase basis the reverse is true, the rag pulp being several hundred percent higher.

In addition to showing maximum pulp variation Fig. 5 probably shows maximum and minimum usefulness of the new resin. On the solda pulp, it will neither save money nor give results appreciably better than can be obtained with rosin, unless excess rosin is a disadvantage. On the rag pulp money can be saved, sizing can be increased about 400 per cent, or a desired combination of these two effects can be obtained.

Fig. 6 shows four more pulps having considerably

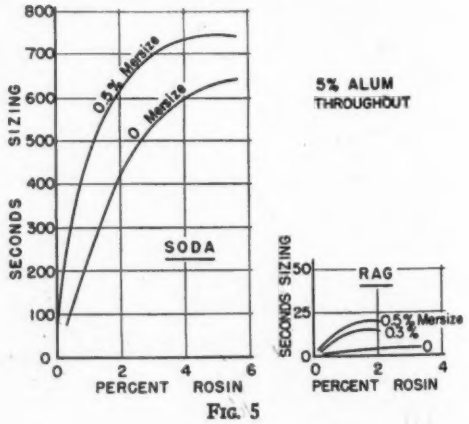


Fig. 5

less variation. The poly-carboxylic resin (Mersize) occupies many more pulp bonds per unit weight than does rosin, hence it is easier to get on the downhill end of the rosin curve. The two upper curves show this possibility. It also exists in the two lower curves, although the data goes far enough only to hint at it.

Fig. 7 shows the same data but plotted differently. The abscissa represents the actual or total amount of size used so that 1% rosin and 0.5% of the complex resin are now represented as 1.5% size on the 33% poly-carboxylic resin (Mersize) curve. One per cent rosin and 0.2% of the complex resin are represented as 1.2% size on the 16.7% curve. The zero curve is straight rosin. Several conclusions can be obtained from this figure. The more resistant to sizing a given pulp is, the greater the advantage in using the new sizing agent Also with a given alum dosage, the harder the sizing desired, the greater the savings.

Alum is generally added to the beater until the desired amount or the desired pH is reached. If samples are removed at various amounts of added alum, the sizing can be determined and recorded on the pH titration curve.

Two groups of such curves are shown in Fig. 8. The upper graph is an easily sized pulp and a very poor rosin size. The figures above the line are for 1% rosin and those below the line are for 1% rosin plus 0.2% poly-carboxylic resin. The two titration curves coincide. The 0.2% resin increases sizing from two to four times.

The lower graph shows an excellent rosin size used with a pulp which is very hard to size. At low alum concentrations the titration curves do not coincide. The 4% rosin adds considerably more alkali to the beater than does the 1.5% rosin on the other curves. One and one-half per cent rosin plus 0.2% of the resin goes from slightly better to three times as good as 4% rosin while if 0.5% of the new size is used, the improvement is from two to five times. In all cases the greatest numerical increase is on the hard sizing or high alum end of the curves. The greatest percentage increase, however, comes on the slack sizing or low alum end of the curves.

Practical Application of a Poly-Carboxylic Resin

To supplement the discussion of the theory involved in the use of a poly-carboxylic resin (Mersize) as an engine sizing agent and of the results that have been

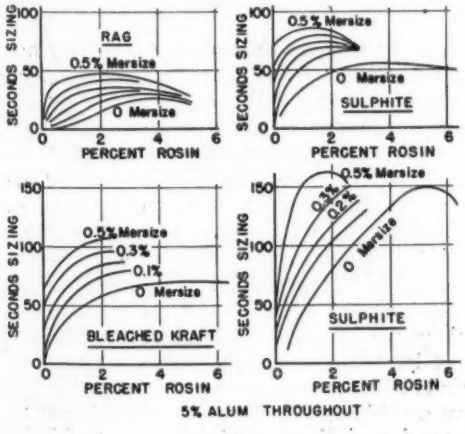


Fig. 6

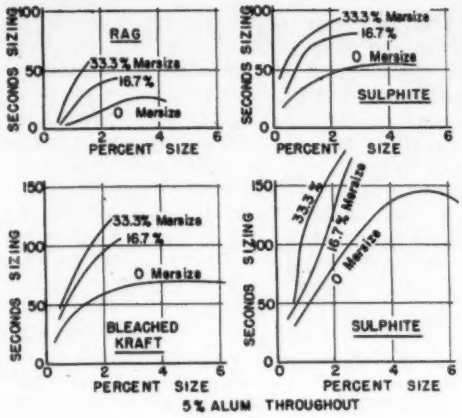


Fig. 7

obtained in the laboratory on hand sheets, the following is a summary of the handling and application of this product in mill operations and mill results that substantiate the laboratory work. It should be appreciated that this material has not been out of the research laboratory very long and, therefore mill experience on it is somewhat limited.

This poly-carboxylic resin is a solid resinous material and is supplied as a viscous alkaline water dispersion containing 50% resin. (All mention of this product in this report refers to the 100% resin.) The material is readily dispersed in cold water (50 to 100° F.) up to concentrations of 3% to form a stable dispersion suitable for addition to the beater in the same manner as rosin size. Dispersions of higher concentration may be made, but they tend to form a gel on standing. In addition to water dispersions, this new resin may also be dispersed directly in a dilute rosin size dispersion at the above temperatures. If one wishes to use 50% on the weight of the rosin the upper limit of concentration appears to be about 1.5% of the resin dispersed in a 3.0% rosin size dispersion. Mechanical agitation such as a lightning mixer should be used to disperse the new size.

The order of addition of rosin and the poly-carboxylic resin to the stock appears to be immaterial. The amount of the new material required will vary according to the sizing desired, and the pulps being

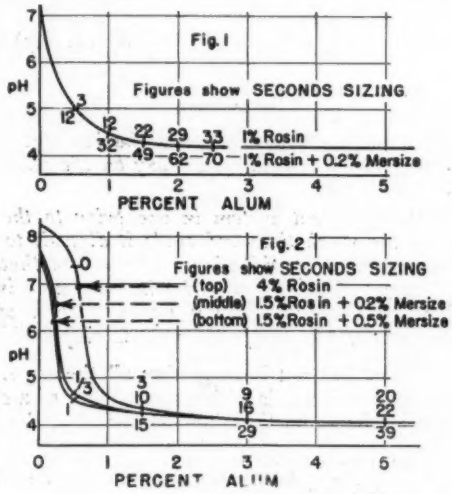


Fig. 8

used as has been previously indicated. In general, 50% on the weight of the rosin is the highest practical percentage to be used if maximum sizing or the most sizing for a limited amount of rosin is desired. If either of the above is not required then as little as 10% on the weight of the rosin will appreciably extend the engine sizing range and usually result in sizing economies. There is one point that should be emphasized and is that as the ratio of this resin to rosin is increased, maximum sizing is obtained with decreasing amounts of the combined sizing agent. For example, one of the sizing curves on rag pulp in Fig. 7 showed maximum sizing with rosin alone to be 25 seconds with 3.5% rosin whereas maximum sizing of 58 seconds was obtained with 1.75% of a sizing agent composed of 33% of the special resin and 67% rosin. A similar example shown in Fig. 7 was a bleached sulfite furnish where 4% rosin gave 56 seconds peak sizing and 2.0% of a size mixture containing 33% of the new product gave 85 seconds peak sizing. Therefore, when introducing the poly-carboxylic resin and rosin mixtures it is advisable to approach the sizing peak from the low dosage side to eliminate the possibility of having a dosage beyond that which will give maximum sizing.

Mill Trials

All of the data presented in this paper were obtained in the laboratory on hand sheets. There are mill results to substantiate this laboratory data.

Case 1. A Hard Sized Bleached Sulphite Paper: The sizing curves, worked out in the laboratory indicated that 2% of a sizing agent containing 16.5% of the new size and 83.5% rosin gave sizing equivalent to 3.1% rosin alone. Two separate trials in the mill on this furnish definitely substantiated these laboratory conclusions in that from 1.2% to 1.8% of the sizing agent containing 16.5% of the new resin gave sizing equivalent to 3.1% rosin.

Case 2. A Hard Sized Groundwood and Unbleached Sulphite Board: In a mill trial 3.2% of an engine size composed of 6% of the new size and 94% rosin gave 20% to 25% more sizing than 5% rosin. On a similar furnish 2.2% of a mixture containing 9% of the resin and 91% rosin gave a board that was 30% to 35% harder sized than with 2% rosin. The sizing on this board was determined by the amount of water absorbed by the board in 20 minutes under a 6 inch head of boiling water.

Case 3. A 50% Rag Paper: The rosin extraction of this paper was limited to 1.5% and the amount of alum was limited because of a 5 pH specification and yet hard sizing was desirable. Laboratory work indicated that 1.25% of an engine size consisting of 33% of the resin and 67% rosin gave 100% more sizing than 1.25% rosin. These results have been substantiated in mill production where it was found that 1.7% of a sizing agent containing 20% of the new resin and 80% rosin in place of 1.75% rosin alone increased the sizing from 100% to 200% before the paper was tub sized and from 200% to 600% after it was tub sized. Sizing was measured by the ink flotation method.

Case 4. A Hard Sized 50% Rag Paper: In a mill trial it was found that 2% of a sizing agent containing 25% of this poly-carboxylic resin and 75% rosin gave 50 to 60% more sizing than 3.5% rosin.

Conclusions

More mill results could be given but the above should be sufficient evidence to substantiate the laboratory data which indicates that a mixture of this new poly-carboxylic resin (Mersize) with its three carboxyl groups and rosin with its one carboxyl group is a more efficient engine sizing agent than rosin alone because such a mixture takes advantage ofthe high bond density points on the pulp.

From a practical point of view the use of this sizing agent with rosin in the engine sizing process materially extends the limits of obtainable engine sizing and the amount of sizing agent necessary to cover this extended sizing range is considerably lower. It appears to be of particular benefit on papers where maximum engine sizing is desirable or where the amount of rosin permitted is limited.

How to do Business With the Navy*

By Lt. (jg) Robert Faegre SC USNR[1]

Abstract

The development of a new purchasing system for Navy supplies was made necessary by the advent of war.

The procurement system in use prior to the war required too much time and made it difficult to control requirement specifications. The old method for securing supplies is compared with that now in operation for which the Navy Paper Section of the Bureau of Supplies and Accounts is responsible.

The Navy has not been getting all the paper and paper products it needs without something of a struggle, yet at the same time it is known that the mills are not getting enough pulp and auxiliary materials to make all these items. The discussion of pulp problems is not proposed but rather to attempt a clarification of Navy procurement procedure insofar as paper and paper products are concerned.

It has often been said that the Armed Services frequently do not get the voluntary assistance of the majority of paper producers simply because of the formidable prospect of finding out where to give that much needed assistance. Every mill or converter used to think that the "ropes" were impossible to reach without the full time help of a mill representative or agent located permanently in Washington or in the vicinity of other large procurement activities. In large measure this used to be so, but this is not the case now and the mills will find that contact with the Navy Department is very easily made and maintained.

* Presented at the Army and Navy Requirements Conference of the Technical Association of the Pulp and Paper Industry, Palmer House, Chicago, Ill., Sept. 21-24, 1943.

[1] Navy Paper Section, Bureau of Supplies and Accounts, Navy Department, Washington, D. C.

Procurement Prior to War

Perhaps the easiest way to explain the present paper procurement system in the Bureau of Supplies and Accounts is to differentiate it from the system in force at the outbreak of the war when the demand for paper items skyrocketed out of all proportion to peacetime needs. In time of war, production always lags behind demand, at least for the first several months. In the same way, the procurement machinery for meeting the unprecedented demand lags behind.

The horizontal purchasing system was well entrenched in the Navy and probably in the Army. A given Supply Depot or Navy Yard would submit a stock replenishment request to the Bureau of Supplies and Accounts, such requests being submitted each 5 months for the products involved here. The Stock Division of the Bureau, having cognizance over quantity, distribution points, and specifications, would make an analysis along those lines. The requests would then go to the Schedule Section of the Purchase Division. Here the Navy tender would be prepared and forwarded to the Mailing List Section, where a list of bidders had been developed by the simple expedient of adding the name of any capable concern which thought it might care to bid on paper, regardless of grade. The tenders were mailed and after an appropriate period, were opened on a given date and hour. The bids were then gathered, tabulated and sent to the Contract Award Section of the Bureau's Purchase Division. Here were perhaps a dozen Naval Officers who evaluated the tabulations, recommended awards, and carried out such negotiation as was necessary. These officers were eventually overcome with detail as commodities grew more technical, and more frequent bid openings occurred. (These men were making awards on many more items than the 61,000 odd carried in Standard Stock). After awards were made, the bids and pertinent data were forwarded to the Contract Drafting Section, whose function is obvious. From there, the drafts went to the Duplicating Section, where sufficient copies were reproduced, these then being turned over to the Contract Issue Section. This Section assembled the reproduced copies and made the necessary distribution. This long journey and many handlings by personnel, not always technically versed in the language of the product concerned, made for frequent misunderstandings with contractors which couldn't be avoided.

This outmoded procedure, which has been described briefly, took much too much time. The Naval Activity which originated the stock request could not often count on receiving the last of the goods before 9 to 10 months had elapsed which was unsatisfactory when ships and task forces could not be made to wait. The contractors also were at fault by making deliveries far later than their contracts stipulated. They could hardly be blamed, however, when it appeared that the Navy itself was not especially anxious to get contracts into their hands promptly. Furthermore, the supply officers at the receiving activities ordered much more than they actually needed, so as not to be caught short.

Inspection was handled under the old system. The old-line inspector called once or twice at the plant to examine goods in process or ready for shipment. Your laboratory technician was watched while making the tests in accordance with his own interpretation of the applicable specification, then a car or so of 300 pound cases was looked over, most of which were nailed shut, and that shipment and others the mill might care to make before he had time to return were released. If the inspector was especially prudent, he might have drawn samples and sent them to an accredited laboratory for analysis according to their interpretation. Then, further, in about fifty per cent of the cases there was no inspection at the source, and visual analysis was made by the receiver. It is plain to see why the ultimate consumers complained when one shipment of mimeograph paper looked like newsprint while the last had been quite presentable. This has all been changed; it was a peacetime procedure not suited to the demands of war.

New Procurement Procedure

Basically, the new procurement procedure has taken a vertical form as contrasted with the previous horizontal form. The entire procurement system in the Bureau of Supplies and Accounts now falls approximately into the same pattern as that which is discussed and which specifically covers paper items.

Requirements

By personal contact with the field on the part of the officers now responsible for paper procurement, reasonable requests for stock replenishment are made, reasonable from the aspects of quantity and quality which is sufficient to meet the required purpose. For example, all field activities formerly used 25% rag mimeograph paper. To conserve sulphite pulp, groundwood mimeo is now used almost exclusively, and with proper specification control, this sheet answers the normal purpose. Once the requirements are received in the Bureau, the responsible procurement section has already done considerable spade work. Complete inventory records are made up prior to each stock replenishment period, so that excesses at one depot can be diverted to a second, thus avoiding an unnecessary tonnage burden on the mills. The Armed Services are operating under a strict inventory limitation imposed by the War Production Board. Fortunately for the pulp situation, this restriction has curtailed Navy paper procurement on most grades to a minimum over the past six months. A continual balancing of stocks has been in progress. Approximately 16,000 tons of paper were cancelled from operating contracts during April and May of this year. Recently the Navy has transferred stocks of paper items amounting to 3,500 tons from its warehouses to other government agencies including the Army, Government Printing Office, Treasury Procurement Division, Post Office, Office of Emergency Management, etc. The requirements for the last quarter of this year were developed last week and many of these still can be handled by stock transfer within the department. Demand for other items which must be purchased on the open market, especially in the tissue field, is rising steadily. It is expected that the Navy inventories will be balanced to a six months level by the end of this calendar year.

Analysis

When the requirements reach the Bureau of Supplies and Accounts, they are sent for specification analysis to the Paper Commodities Section in the usual manner. All government agencies are obliged by law to buy material to Federal Specification where possible. However, each agency is able to recommend

changes to Federal Specifications and this is done so frequently to keep abreast of mill operating conditions, that the whole question becomes quite difficult without personal contact between yourselves and the purchasing officers.

Bids

Under the War Powers Act, the Navy has two means of requesting bids from suppliers; either on the basis of a tender or by direct contact on the telephone. This depends on the complexity of the item concerned. If there is a quantity of sulphite writing paper in standard cut sizes, it would only waste time to advertise for bids. Capable producers are selected according to geographical adjacency to the delivery points and a direct request for bid is made. The Paper Section has an accurate knowledge of all suppliers, their facilities, etc. The War Production Board also makes available the position of the suppliers: that is, how much tonnage they are able to offer in relationship to other direct war contracts, and also what the status of their raw material is apt to be. If there are many varied items of a single grade and the demand is not so urgent, tenders will be issued and mailed to suppliers capable of furnishing the material desired. Mailing lists have long since been prepared according to grade and mill capability.

Samples

A sample of the material the mill proposes to furnish is requested. This is sent to the Naval Clothing Depot in Brooklyn, New York where the Navy Laboratory for testing paper is located. This laboratory is competently supervised by trained officer personnel and has the most up-to-date testing machines and conditions available. Recommendations from the Naval Clothing Depot, translated into mill conditions are important in the making of awards.

Awards

Contract awards are made on the basis of many considerations, some of which are as follows: Sample submitted, delivery capability, price, War Manpower Commission labor area, adjacency of supplier to delivery point, previous performance, availability of auxiliary materials such as containers, etc. Each award must be considered on its own merits, since the only constant factors are perhaps quantity and delivery point.

Prior to drafting the contract or purchase order, a telegraphic or written notice of award is made. This constitutes full authority to proceed with production on the basis of the sample submitted and approved. The time of delivery runs from the date of this award. Under normal conditions, the formal papers should be received within a week to ten days. This delay is better understood when it is realized that the Bureau as a whole issues from 200 to 300 contracts each day.

Release

The contract or order is now operating in agreement with the terms reached at the time of negotiation. If the mill has produced a carload of material, what formal release from the designated Inspector of Naval Material is required? He is asked to call and draw official samples in accordance with the inspection clause in the contract. The samples will be forwarded by air or regular mail (whichever is more expedient) to the Naval Clothing Depot for test in accordance with the sample originally submitted and applicable specifications. Release will be given the inspector by teletype or wire. (If 48-hour service is possible for release of material manufactured on the West Coast, certainly the mills further east should experience no hardship from this procedure.) If, for any reason, the standard inspection is unsatisfactory suitable adjustments can be arranged with the Paper Section in Washington or with the Laboratory in Brooklyn.

Readjustments

If a contract covers an extended period, and before it expires, the mill is allotted a grade of pulp which makes it absolutely impossible to produce a sheet equal to the sample originally submitted, there is the following procedure. If it does not make up to the original sample, Brooklyn will notify the Paper Section which will ask the producer the reason. If the mill claims that the pulp is at fault, it is checked with the WPB Pulp Allocation Division, which informs the Paper Section as to whose and what type of pulp is received by the mill during a given month. Assuming that the findings agree with the complaint, the shipment will be released immediately.

It is believed that the currently operating inspection system is the only feasible instrument for controlling the items purchased, especially when manufacturing conditions vary almost daily. Not only that, the vastly overcrowded receiving activities need not take the effort to inspect goods before taking them into stock. Furthermore, a central control gives uniform quality, and affords the opportunity of maintaining an accurate delivery status on each contract. It also gives producers more latitude than would be the case were test results not being reviewed by persons who are up to the minute on frequently changing WPB restrictions and limitation orders.

Many mills are worried about the seemingly arbitrary stand taken by the Armed Forces with respect to shipping containers. As to the gross weight limitation imposed for paper products, suffice to say that paper is being received under conditions which can be well understood. Lifting equipment is scarce in a scene of warehouse expansion and it is impossible to expect personnel, especially female, to handle a 300 pound nailed wood case. The availability of paper containers, whether V-board or domestic, is quite another question. The Navy Paper Section will help in obtaining containers, either with industry or WPB cooperation and their efforts are meeting with fairly consistent success.

Priorities

There are, to date, no priorities covering the *production* of paper which fact might not be realized by the industry. The Navy Paper Section can only extend a AA-2X to cover operating supplies.

It is difficult to cover every sort of problem that might confront the mill during the course of performing a Navy paper contract. The situations are as many and as varied as the number of items bought and the number of producers. However the responsibility for all contingencies which arise is, at the moment, in the hands of a single section in the Bureau of Supplies and Accounts.

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Luke, Maryland
Covington, Virginia
Tyrone, Pennsylvania
Williamsburg, Pennsylvania
Charleston, South Carolina

New York Paper and Pulp Market Review

More Grades of Paper Reported Tight—Complete End-Use Control of Wood Pulp Is Expected To Become Effective First of Year—Rag Markets Active — Mills Are Hampered By Lack of Waste Paper.

Office of the PAPER TRADE JOURNAL.
Wednesday, November 1943.

A somewhat tighter supply situation, created by the pressure of heavy demand and the still threatening serious shortage in pulpwood, is reflected in reports received this week from many manufacturers' representatives, jobbers, and geenral paper merchants. Although production of paper and paper board is at a high level in comparison with normal years, total war requirements are heavy and the supply situation for the future appears unfavorable at this time. The result of the renewed pulpwood and waste paper collection drives now in progress is yet undetermined but good progress is reported being made.

The index of general business activity for the week ended November 6 declined to 136.9, from 139.1 for the previous week, compared with 131.2 for the corresponding week last year. The index of paper board production was 140.9, compared with 133.9 for the previous week, and with 132.3 for the corresponding week last year.

Paper production for the week ended November 6 was estimated at 90.6%, compared with 88.5% for 1942, with 105.0% for 1941, with 85.6% for 1940, and with 98.1% for the corresponding week for 1939.

Paper board production for the week ended November 6 was 93.0%, compared with 84.0% for 1942, with 97.0% for 1941, with 78.0% for 1940, and with 84.0% for the corresponding week for 1939.

The WPB made on November 16 some changes in General Conservation Order M-241 and will require manufacturers of paper to reserve 15% of their finished production, and paper board manufacturers to reserve 35% of their finished production, beginning December 1, 1943.

The index of the value of manufacturers' shipments of paper and allied products for September, the latest report issued by the Department of Commerce, was 160, compared with a high of 163 in June. The index total for all industries was 261; durable goods, 356, and non-durable goods, 187.

The index of the value of manufacturers' inventories for September for paper and allied products was 133.8, compared with a high of 141.4 in January. The index total for all industries was 178.1; durable goods, 214.7, and non-durable goods, 146.0.

Wood Pulp

The lack of wood pulp to keep up production is reported to have caused a one-day shutdown of a New England mill and several eastern mills are reported with barely enough pulp on hand to continue operations.

The end-use control of wood pulp on the basis of essentiality will, according to David Graham, Chief of the Pulp Allocation Section, Forest Products Division, War Production Board, become effective about January 1, 1944.

Rags

Demand continues good for new cotton cuttings. Mill requirements for colored cuttings is reported but partly met by limited supplies. White cuttings are in moderately good demand. Prices on all grades of new cotton rags are firm with buying at ceiling prices.

Roofing grades of old cotton rags are active under a steady mill demand at ceiling prices.

Old Rope and Bagging

No important change in the old rope market has been reported this week. Mill demand for hard fiber continues to absorb all available supplies. Ceiling prices prevail.

Demand for scrap bagging is good but volume is relatively light owing to limited supplies. No definite market quotations are ,therefore, established and prices continue nominal.

Old Waste Paper

Mill demand for waste paper is heavy but supplies are inadequate to meet mill requirements. Several board mills have been forced to curtail operating schedules. The renewed collection drives now in progress are expected to increase collection of paper stock substantially over September. The WPB reports that consumption for September was in excess of collections and inventories had declined from 516,000 tons in December, 1942, to 202,000 tons on September 30, 1943.

Twine

The WPB amendment to Order M-84 directs manufacturers to set aside definite percentages of their total production of Manila rope, agave, and jute rope for non-military orders, as follows: Manila rope, 12%; agave or sisal rope, 23%, and jute rope, 60%.

Return Chlorine Cylinders Promptly

A major problem in the distribution of chlorine lies in the shortage of cylinders for its transportation. Manufacturers state it is almost impossible to obtain new cylinders because of the allocation of steel and the diversion of a large proportion of the supply of cylinders to the armed forces.

Consumers of chlorine are requested to return cylinders for refilling as promptly as possible. Manufacturers appear able to produce sufficient chlorine and the supply of standard steel cylinders is adequate, providing cylinders are kept in active circulation.

To Start Mill at Lancaster, Ohio

LANCASTER, Ohio, November 15, 1943.—Loroco Industries, Inc., will open its newly-acquired paper mill here December 1, employing 75 hands making paper for conversion into war materials at company's Reading, Ohio, plant. Loroco bought the mill abandoned 18 months ago by the U. S. Gypsum Company. Melvin Riehm of Cincinnati has been named plant superintendent.

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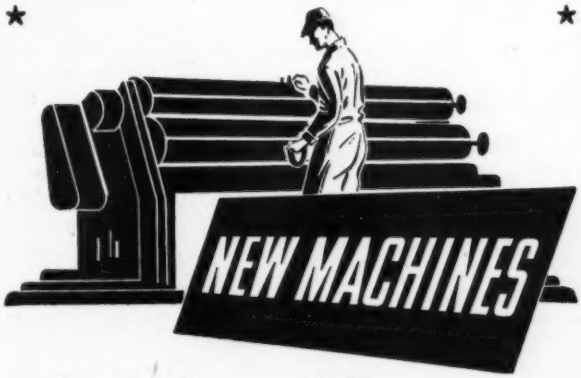

for post-war delivery . . .

Just to remind you that we will again be prepared to give you new and improved equipment for your post-war paper converting problems.

Both your plant and our plant are now interested in one objective — beating the Axis.

After the war you will need, and we will build, equipment to meet your post-war needs.

It might be well to do a little thinking and planning about these requirements right now!

HUDSON-SHARP
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MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL.
Wednesday, November 17, 1943.

BLANC FIXE—Quotations on blanc fixe continue unchanged. Current demand is reported fair. The pulp is quoted at $40 per ton, in barrels, at works; the powder is quoted at $60 per ton, f.o.b. works.

BLEACHING POWDER—Current demand is reported good. Quotations are unchanged. Prices on bleaching powder range at from $2.50 to $3.10 per 100 pounds, in drums, car lots, at works.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 24 cents per pound; 2,000 pounds, 24¼ cents per pound; less than 2,000 pounds, 24¾ cents per pound, f.o.b. shipping point. Quotations on imported casein range at from 10¼ to 10½ cents per pound, f.o.b. source.

CAUSTIC SODA—No change in tight market situation; demand exceeds supply. Prices continue unchanged. Solid caustic soda is quoted at $2.30 per 100 pounds; flake and ground is quoted at $2.70 per 100 pounds; all in drums, car lots, at works.

CHINA CLAY—Quotations on china clay are unchanged. Current demand is reported fair. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Heavy demand continues. Prompt returns of cylinders is requested. Prices are unchanged. Chlorine is currently quoted at $1.75 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—Prices on most grades are little changed for the current week. "G" gum rosin is quoted at $4.12 per 100 pounds, in barrels, Savannah. "FF" wood rosin is quoted at $4.10 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is currently quoted at $4.31 per 100 pounds, f.o.b. works.

SALT CAKE—Prices on salt cake are reported unchanged for the current week. Demand is reported moderate. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Heavy demand continues for all requirements; market tight. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Small supply of cash corn continues to create a tight market situation in corn products. Quotations are unchanged for the current week. The pearl grade is quoted at $16 per long ton, f.o.b. mines; the contract price per 100 pounds; all prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA—Demand reported active. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.25 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is quoted at $2.35 per 100 pounds, in bags, at works.

SULPHUR—Quotations on sulphur continue to conform to prevailing market prices. Annual contracts are quoted at $16 per long ton, t.o.b. mines; the contract price at Gulf Ports is $17.50 per long ton.

TALC—Prices on talc continue unchanged. Demand moderate. Domestic grades are currently quoted at from $16 to $21 per ton, at mines; Canadian at $24 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

News, per ton—			
Roll, contract	*$58.00	@	—
Sheets	64.00	"	—
* OPA Maximum Price.			
Kraft—per cwt.—Carload Quantities Zone A, f.o.b. Mill			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—
* OPA Manufacturers' Prices.			
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.60	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila Wrapping, 35 lb.	6.00	"	6.25
No. 2 Manila Wrapping, 35 lb.	5.75	"	6.00
Boards, per ton—			
News	*48.00	@	—
Chip	*45.00	"	—
Sgl. Mla. Ll. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*63.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext.		
No. 1	$39.10@$46.00	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.30
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.25
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.60	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. & S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. & S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight, Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$76.00		
Unbl. Softwood Sulphite	65.00	@	66.00
Bl. Hardwood Sulphite	73.50		
Unbl. Hardwood Sulphite	63.50		
Bl. Mitscherlich	81.00		
Unbl. Mitscherlich	72.00	@	82.00
N. Bleached Sulphate	86.00		
S. Bleached Sulphate	79.00		
N. Semi-Bleached Sulphate	82.00		
S. Semi-Bleached Sulphate	75.00		
N. Unbl. Sulphate	73.00		
S. Unbl. Sulphate	63.50		
Bl. Soda	66.00		
Unbl. Soda	62.00		
Groundwood	46.00		

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.

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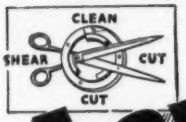

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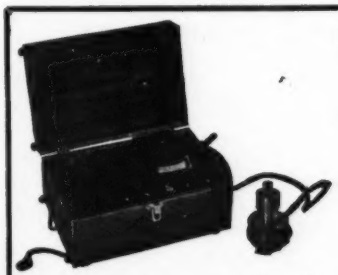

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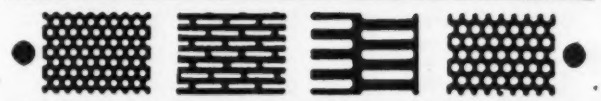

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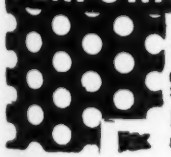
POTDEVIN

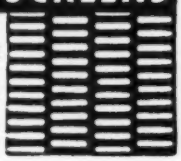
PERFORATED METAL SCREENS



MADE SPECIALLY FOR PAPER and PULP MILL USE

Copper, Bronze, Steel, Stainless Steel and other metals, Heat-treated.

HENDRICK MFG. CO.
50 Dundaff St., Carbondale, Pa.
Offices in Principal Cities



Old Rags

White, No. 1—
Repacked .....*3.80 " —
Miscellaneous ....*3.20 " —
White, No. 2—
Repacked .....*2.90 " —
Miscellaneous ....*2.65 " —
Third and Blues—
Repacked .....*2.20 " —
Miscellaneous ....*1.80 " —
Roofing Rags—
No. 1.....*1.55 " —
No. 2.....*1.45 " —
No. 3 (bagging)..*1.35 " —
No. 4.....*1.35 " —
No. 5A .....*1.35 " —
Old Manila Rope.. 5.75 " —
OPA Maximum Prices.

Foreign Rags

All Prices nominal

New Rags

New Dark Cuttings.. 2.25 @ 2.40
New Mixed Cuttings. 2.00 " 2.20
New Light Silesias.. 5.50 " 5.75
Light Flannelettes... 5.50 " 5.75
New White Cuttings. 7.00 " 7.50
New Light Oxfords. 4.00 " 4.50
New Light Prints... 3.00 " 3.25

Old Rags

No. 1 White Linens. 7.50 " 8.50
No. 2 White Linens. 6.50 " 7.50
No. 3 White Linens. 4.50 " —
No. 4 White Linens. 2.25 " 3.25
No. 1 White Cotton. 4.25 " 4.75
No. 2 White Cotton. 3.25 " 3.75
No. 3 White Cotton. 2.50 " 3.00
No. 4 White Cotton. 1.90 " 2.20
Extra Light Prints.. 2.00 " 2.40
Ord. Light Prints... 1.75 " 2.15
Med. Light Prints... 1.55 " 1.95
Dutch Blue Cottons. 2.25 " 2.50
French Blue Linens. 3.00 " —
Checks and Blues... 2.00 " —
Linsey Garments.... 1.90 " 2.00
Dark Cottons..... 1.50 " 1.60
Old Shopperies..... 1.30 " 1.45
New Shopperies..... 1.45 " 1.50
French Blues..... 2.25 " 2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—
Foreign .....Nominal
Domestic ..... 4.25 @ 4.35
Wool Tares, light.... 4.25 " 4.50
Wool Tares heavy.. 4.50 " 5.00
Bright Bagging.... 4.50 " 4.85
Manila Rope—
Foreign ..... — " —
Domestic .....*5.75 " —
Jute Threads..... 5.50 " —
No. 1 Sisal Strings..*4.00 " —
Mixed Strings..... 2.00 " —
* OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)
OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut ..... 3.37½ @ —
No. 1 Hard White Envelope Cuts.... 3.12½" —
No. 1 Hard White Shavings, unruled. 2.87½" —
No. 1 Hard White Shavings, ruled... 2.50 " —
Soft White Shavings, one cut..... 2.87½" —
No. 1 Soft White Shavings ..... 2.50 " —
Soft White Shavings, Misc. ..... 2.15 " —
No. 1 Fly Leaf Shavings ..... 1.67½" —
No. 2 Fly Leaf Shavings ..... 1.12½" —
No. 1 Groundwood Fly Leaf Shavings 1.25 " —
No. 2 Mixed Groundwood Fly Leaf Shavings ..... .90 " —
Mixed Colored Shavings ..... .75 " —
Mixed Groundwood Colored Shavings.. .90 " —
Overissue Magazines ..... 1.67½" —
No. 1 Heavy Books & Magazines..... 1.67½" —
Mixed Books..... .85 " —
No. 1 White Ledger 2.17½" —
No. 2 Mixed Ledger, colored ..... 1.87½" —
New Manila Envelope Cuttings, one cut.. 2.87½" —
New Manila Envelope Cuttings ..... 2.65 " —
Extra Manilas..... 1.85 " —
Mixed Kraft, Env. & Bag Cuttings..... 2.75 " —
Kraft Envelope Cuttings ..... 3.25 " —
Triple Sorted, No. 1 Brown Soft Kraft. 2.50 " —
New 100% Kraft Corrugated Cuttings.. 2.25 " —
No. 1 Assorted Old Kraft ..... 1.75 " —
New Jute Corrugated Cuttings ..... .90 " —
Old 100% Kraft Corrugated Containers 1.75 " —
Old Corrugated Containers ..... 1.15 " —
Box Board Cuttings. .72½" —
White Blank News.. 1.65 " —
Overissue News..... .85 " —
No. 1 News..... .75 " —
No. 1 Mixed Paper. .70 " —
Old Corrugated Containers ..... .82½" —
Mill Wrappers..... .85 " —

Twines

All Prices Nominal
(F. o. b. Mill)
(Soft Fiber)

Coarse Polished—
India ..... .21 @ —
White Hemp..... .21 " —
Fine Polished—
Fine India..... .26 " —
Unpolished—
Box ..... .17½" —
Paper Makers..... .17 " —
Tube Rope..... .19 " —
Wall Paper.. .... .20½" —
Wrapping ..... .23 " —
Soft Fiber Rope... .19 " —
Cotton ..... .25 " —
(Hard Fiber)
Medium Java..... .18 " —
Mex. Sisal.. ..... .16 " —
Manila ..... " —

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—
New White No. 1. .07¼ @ .07½
New White No. 2. .04½" .05
Light Silesias.. . .04½" .04¾
Silesias, No. 1.... .04 " .04¼
Black Silesias, soft .03¾" .04
New Unbleached.. .07¼" .07½
Washable Prints... .03¾" .03½
Washable No. 1.. .02 " .02¼
Blue Overall..... .04½" .05½
Cottons—According to grades—
Washable shredding — " .01¾
Fancy Percales.... .03¾" .03½
New Black Soft... .02¾" .03
New Dark Seconds 1.75 " 2.00
Khaki Cuttings—
No. 1 O. D..... .03 " .03¼
No. 2 Mixed..... .02¾" .02½
Corduroy ..... .01¾" .02¼
New Canvas..... .04¾" .05¼
New Black Mixed. — " .02½

Domestic Rags (Old)

White No. 1—Repacked ..... 3.80 " —
White No. 2—Repacked ..... 2.90 " —
Miscellaneous No. 1. 3.20 " —
Miscellaneous No. 2. 2.65 " —
Thirds and Blues—
Miscellaneous .... 1.80 " —
Repacked ..... 2.20 " —
Black Stockings—
(Export) .....Nominal
Roofing Stock—
Foreign No. 1....Nominal
Domestic No. 1.... 1.55 " —
Domestic No. 2.... 1.45 " —
Roofing Bagging.. 1.35 " —
Old Manila Rope... 5.75 " —

Bagging

(F. o. b. Phila.)

Gunny No. 1—
Foreign .....Nominal
Domestic ..... 3.00 " 3.50
Sisal Rope..... 3.75 " —
Mixed ..... 1.00 " 1.50
Scrap—
No. 1..... .... 3.25 " 3.50
No. 2.. .. .... 1.75 " 1.80
Wool Tares [illegible] ... 4.00 " 4.25
No. 1 New Light Burlap ..... 3.00 " 4.00
New Burlap Cuttings 3.75 " 4.00

Old Papers

(F. o. b. Phila)
OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut ..... 3.37½" —
No. 1 Hard White Shavings, unruled.. 2.87½" —
Soft White Shavings, one cut..... 2.50 " —
White Blank News.. 1.65 " —
Soft White Shavings, Misc. ..... 2.15 " —
No. 1 Fly Leaf Shavings ..... 1.67½" —
No. 2 Fly Leaf Shavings ..... 1.12½" —
No. 1 Groundwood Fly Leaf Shavings 1.25 " —
No. 2 Groundwood Fly Leaf Shavings .90 " —
Mixed Colored Shavings ..... .75 " —
New Manila Envelope Cuts, one cut..... 2.87½" —
Hard White Envelope Cuts, one cut..... 3.37½" —
Triple Sorted No. 1 Brown Soft Kraft. 2.50 " —
Mixed Kraft Env. & Bag Cuttings..... 2.75 " —
Kraft Envelope Cuttings ..... 3.25 " —
No. 1 Heavy Books & Magazines..... 1.67½" —
New Manila Envelope Cuts, one cut..... 2.87½" —
New Manila Envelope Cuttings ..... 2.65 " —
White Blank News.. 1.65 " —
No. 1 Assorted Old Kraft ..... 1.75 " —
No. 1 Mixed Paper. .70 " —
Overissue News..... .85 " —
Box Board Cuttings. .72½" —
New Corrugated Cuttings, Kraft..... 2.25 " —
Old 100% Kraft Corrugated Containers 1.75 " —
Old Corrugated Containers ..... 1.15 " —
Jute Corrugated Cuttings ..... 1.07½" —

Bagging

(F. o. b. Boston)

Gunny Bagging—
Foreign .....(nominal)
Domestic ..... 2.50 @ 2.75
Sisal Rope No. 1....*4.75 " —
Sisal Rope No. 2....*4.25 " —
Mixed Rope..... 1.35 " 1.50
Transmission Rope—
Foreign .....(nominal)
Domestic ..... 2.75 " 3.00
Manila Rope—
Foreign .....(nominal)
Domestic ..... 5.75 " —
Soft Jute Rope..... 5.25 " —
Jute Carpet Threads. 3.00 " 3.50
Bleachery Burlap.... 8.50 " 9.00
Scrap Burlap—
Foreign .....(nominal)
Domestic ..... 3.25 " 3.50
Wool Tares—
Foreign .....(nominal)

BOSTON

Old Papers

(F. o. b. Boston)
OPA Maximum Prices

No. 1 Hard White Shavings, unruled. 2.87½ @ —
No. 1 Hard White Shavings, ruled... 2.50 " —
Soft White Shavings, Misc. ..... 2.15 " —
No. 1 Fly Leaf Shavings ..... 1.67½" —
No. 2 Fly Leaf Shavings ..... 1.12½" —
No. 1 Groundwood Fly Leaf Shavings 1.25 " —
No. 2 Groundwood Fly Leaf Shavings .90 " —
Mixed Colored Shavings ..... .75 " —
New Manila Envelope Cuts, one cut..... 2.87½" —
Hard White Envelope Cuts, one cut..... 3.37½" —
Triple Sorted No. 1 Brown Soft Kraft. 2.50 " —
Mixed Kraft Env. & Bag Cuttings..... 2.75 " —
Kraft Envelope Cuttings ..... 3.25 " —
No. 1 Heavy Books & Magazines..... 1.67½" —
New Manila Envelope Cuts, one cut..... 2.87½" —
New Manila Envelope Cuttings ..... 2.65 " —
White Blank News.. 1.65 " —
No. 1 Assorted Old Kraft ..... 1.75 " —
No. 1 Mixed Paper. .70 " —
Overissue News..... .85 " —
Box Board Cuttings. .72½" —
New Corrugated Cuttings, Kraft..... 2.25 " —
Old 100% Kraft Corrugated Containers 1.75 " —
Old Corrugated Containers ..... 1.15 " —
Jute Corrugated Cuttings ..... 1.07½" —

Bagging

(F. o. b. Boston)

Gunny Bagging—
Foreign .....(nominal)
Domestic ..... 2.50 @ 2.75
Sisal Rope No. 1....*4.75 " —
Sisal Rope No. 2....*4.25 " —
Mixed Rope..... 1.35 " 1.50
Transmission Rope—
Foreign .....(nominal)
Domestic ..... 2.75 " 3.00
Manila Rope—
Foreign .....(nominal)
Domestic ..... 5.75 " —
Soft Jute Rope..... 5.25 " —
Jute Carpet Threads. 3.00 " 3.50
Bleachery Burlap.... 8.50 " 9.00
Scrap Burlap—
Foreign .....(nominal)
Domestic ..... 3.25 " 3.50
Wool Tares—
Foreign .....(nominal)
Domestic ..... 4.25 " —
Aust. Wool Pouches.. 3.75 " 4.00
New Burlap Cuttings 4.75 " 5.00
Heavy Baling Bagging 4.00 " 4.25
Paper Mill Bagging.. 2.50 " 3.00
No. 2 Bagging..... 1.35 " —*
* OPA Maximum Price.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—
New Light Prints. .04½ @ .04¾
Fancy Percales.... .04¾" .05
New White No 1. .06¾" .07
New Light Flannelettes ..... .05½" .06
Canton Flannels, Bleached ..... .06 " .06½
Underwear Cutters, Bleached ..... .06¾" .06¾
Underwear Cutters, Unbleached ..... .05¾" .06
Silesias No. 1..... .06 " .06¾
New Black Silesias.. .03 " .03½
Red Cotton Cuttings .03½" .04
Soft Unbleached ... .06½" .06¾
Blue Cheviots .... .05½" .06
Fancy ..... .02¾" —
Washable ..... .02¾" —
Khaki Cuttings .... .02¾" .03
O. D. Khaki..... .03½" .03¾
Corduroy ..... .03¾" .03½
New Canvas ..... .06¼" .06¾
B. V. D. Cuttings... .06¾" .06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—
Repacked .. .... 3.80 @ —*
Miscellaneous .... 3.20 " —*
White No. 2—
Miscellaneous .... 2.65 " —*
Twos and Blues, Repacked ..... 2.20 " —*
Old Blue Overalls... 2.25 " 2.50
Thirds and Blues, Repacked ..... 2.20 " —*
Miscellaneous ..... 1.80 " —*
Black Stockings .. 3.50 " 4.00
Roofing Stock—
No. 1 ..... 1.55 " —*
No. 2 ..... 1.45 " —*
No. 3 ..... 1.35 " —*
No. 4 ..... 1.35 " —*
No. 5, Quality A.. 1.35 " —*
Quality B.. 1.20 " —*
Quality C.. .95 " —*
* Old Manila Rope.. 5.75 " —
* OPA Maximum Prices.

Foreign Rags

(F. o. b Boston)

Canvas .....(nominal)
Dark Cottons .....(nominal)
Dutch Blues .....(nominal)
New Checks and Blues..(nominal)
Old Fustians .....(nominal)
Old Linsey Garments....(nominal)
New Silesias .....(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)
OPA Maximum Prices.

Shavings—
No. 1 Hard White Envelope Cuts, one cut ..... 1.37½" —
No. 1 Hard White Shavings, unruled. 2.87½" —
No. 1 Soft White Shavings ..... 2.50 " —
No. 1 White Ledger 2.17½" —
No. 1 Heavy Books & Magazines ..... 1.67½" —
White Blank News.. 1.65 " —
Mixed Kraft Env. & Bag Cuttings... 2.75 " —
No. 1 Assorted Old Kraft ..... 1.75 " —
Overissue News .... .85 " —
No. 1 News..... .75 " —
No. 1 Mixed Paper.. .70 " —
No. 1 Roofing Rags. 1.55 " —
No. 1 Roofing Bags. 1.45 " —